

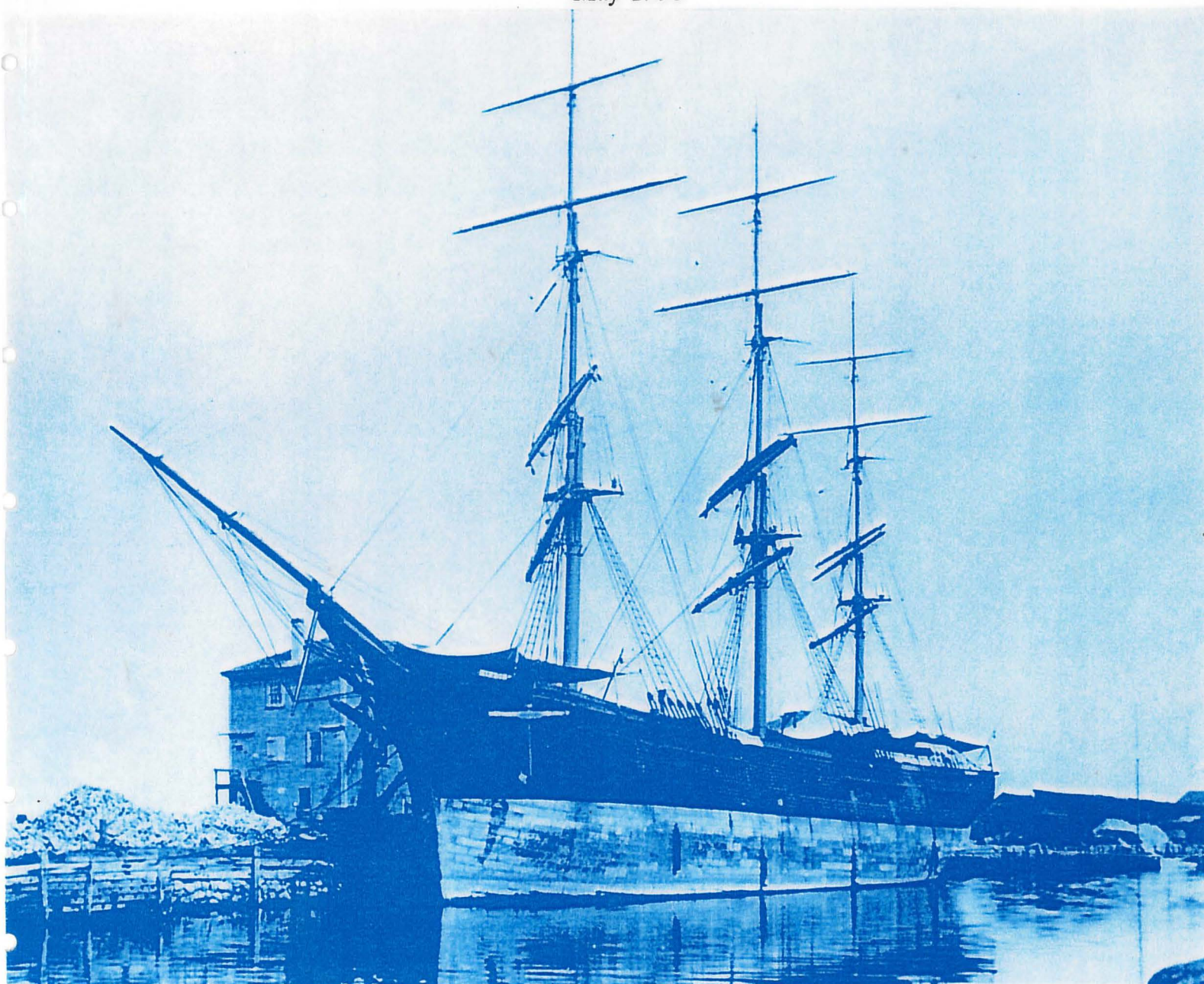
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Salem Maritime National Historic Site

TRIAL AND MARINE ARCHEOLOGICAL REMOTE SENSING
AND ARCHEOLOGICAL MONITORING

SALEM, MASSACHUSETTS

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TERRESTRIAL AND MARINE ARCHEOLOGICAL REMOTE SENSING
AND ARCHEOLOGICAL MONITORING
SALEM MARITIME NATIONAL HISTORIC SITE
SALEM, MASSACHUSETTS

By

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Prepared for the National Park Service by:

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Dr. Michael L. Alterman served as Project Manager for LBA and was responsible for coordinating the remote sensing surveys and supervising the archeological monitoring and testing. The marine remote sensing survey was conducted for LBA by Dolan Research, Inc., with Lee Cox as Principal Archeologist. The terrestrial remote sensing investigation was performed by Dr. Bruce Bevan, Geosight. Archeological monitoring and ground truthing were performed by LBA archeologists Timothy Sara and Dale Sadler, under Dr. Alterman's supervision. Dr. Alterman was responsible for summarizing the remote sensing studies and evaluating archeological potential; his interpretations of archeological sensitivity do not necessarily reflect NPS opinion or policy. The technical studies by Dr. Bevan and Mr. Cox, which are summarized in Chapter IV, appear as appendices to this report.

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I. INTRODUCTION

This report describes two archeological projects undertaken at Salem Maritime National Historic Site in Massachusetts by the Cultural Resource Group of Louis Berger & Associates, Inc. (LBA). The first project entailed remote sensing of both the terrestrial and maritime portions of the park. The second project involved archeological monitoring of geotechnical testing conducted at Derby and Central wharves in June and July 1990.

The marine remote sensing survey was conducted by J. Lee Cox, Jr., Dolan Research, Inc.; the terrestrial remote sensing investigation was performed by Dr. Bruce Bevan, Geosight. Both remote sensing projects were completed in April 1990. LBA performed archeological testing to evaluate remote sensing anomalies identified by the Geosight survey. Archeological ground truthing was conducted in two phases, the first in June and July 1990 and the second in May 1992. No ground truthing of the underwater anomalies was undertaken.

Concurrent with the remote sensing survey, LBA conducted extensive historical research to create a series of historical base maps and develop historic contexts for site interpretation. The historical investigations have been published in a separate volume (Friedlander et al. 1991). The historical study, which provides a land-use history of the park properties, was one source of data used in the assessment of archeological preservation potential.

The historical and archeological investigations conducted by LBA were undertaken in support of master planning for the park's future development, which includes rehabilitation of the wharves, the potential docking of a tall ship, and new interpretive programs.

The land-use history of the NPS properties includes the construction and demolition of structures, expansion and repairs to wharves, and maintenance of shipping channels through dredging. Many of these activities would have impacted the preservation of early wharves and archeological deposits associated with the residential and commercial occupation of the site. Monitoring of geotechnical tests on Derby and Central wharves supported the assumption that the historic fabric of these two wharves, which were almost completely reconstructed since NPS acquisition in 1937, has minimal integrity. In contrast, Hatch's Wharf may retain architectural and archeological integrity since it has been relatively undisturbed since the early nineteenth century.

The marine remote sensing survey failed to locate potential archeological targets, although this may be the result of survey difficulties due to shallow water and the quantities of metal in the wharves and vicinity. The terrestrial remote sensing survey located several soil anomalies south of Derby Street; historical data and archeological testing indicate that these disconformities represent episodes of landfilling. Several soil anomalies and possible targets for buried material were identified by radar survey in the area north of Derby Street. Archeological testing at the locations of several of these anomalies failed to locate intact deposits or features. The results

of archeological testing suggested that at least some of the soil anomalies north of Derby Street represent disturbances caused by construction, demolition, and landscaping episodes. Some areas that have not been obviously disturbed, for example, unexcavated portions of the Narbonne House and Custom House lots, are considered to have high archeological potential, particularly the location of former outbuildings.

Although many areas within Salem Maritime National Historic Site are considered to have low potential for intact archeological remains because of the previous disturbance, it is not possible to specify the extent and locations of these disturbances. Therefore, archeological resources should be evaluated prior to any development in the park. The evaluations of archeological potential presented in this report can be used to determine appropriate levels of effort and investigative methods for future archeological testing and monitoring.

II. PROJECT SETTING

Salem Maritime National Historic Site is located along Salem Harbor (South River) in Salem, Essex County, Massachusetts (Figure 1). Salem Maritime, the first National Historic Site created by the National Park Service (NPS), was established in 1938 to recognize the significance of Salem's maritime history.

The site encompasses nine acres along Derby Street, which roughly bisects the park (Figure 2). Properties north of Derby Street include the following historic structures: the U.S. Custom House and Scale House, the Narbonne House, the Hawkes House, the Derby House, the West India Goods Store, and St. Joseph's Hall. The park holdings south of Derby Street include three historic wharves—Derby, Hatch's, and Central—the foundations of the 1791-1793 Forrester Warehouse, and a visitor's center that is housed in a historic warehouse that was moved to this site from another location.

The oldest building in the park, the Narbonne House at 71 Essex Street, dates from 1669-1672, with later additions. This house was acquired by the National Park Service in 1964. The U.S. Custom House, located across from Derby Wharf, was built in 1818-1819 on the site of the circa 1773 Crowninshield mansion, which had replaced an earlier, circa 1661 house (Friedlander et al. 1991). The Scale House, located at the rear of the Custom House property, was constructed in 1829 to replace a former coach house that had burned.

The Derby House, the oldest brick dwelling in Salem, was constructed in 1761-1762 by Richard Derby, Sr., for his son, Elias Hasket Derby, who lived there for 20 years before moving to a grander home that took up an entire block on Essex Street. The frame Hawkes House, which now houses NPS offices and collections, is situated between the Derby House and the Custom House. Elias Hasket Derby began construction of a house at this site in 1780-1781; however, he never completed it and used the unfinished dwelling as a warehouse from 1782 until his death in 1799. Benjamin Hawkes acquired the lot in 1801 and substantially remodeled the structure to serve as a two-family dwelling.

The West India Goods Store was built between 1800 and 1805 by Captain Henry Prince. This early commercial building over time has housed a paint store, the shop of a cigar maker, a grocery, a liquor store, a clothing store, a beauty salon, and an antiques store (Friedlander et al. 1991:91, 93, 171). The West India Goods Store was referred to as the Rum Shop on the earliest plans of the National Historic Site (National Park Service 1939) and went by this name until at least 1958, the date of an NPS photograph of the building reproduced in Friedlander et al. (1991:171). In 1988, the NPS acquired St. Joseph's Hall, located on the east side of Palfrey Court, across from the West India Goods Store. This building was constructed in 1909 for the St. Joseph's Polish Catholic Society and functioned as a social/cultural center for the local Polish community, with portions of the building used as a boarding house.



FIGURE 1: Location of Salem Maritime National Historic Site

SOURCE: USGS 7.5 Minute Series, Salem Mass. Quadrangle (photorevised 1979)

The three wharves within the park were constructed in the eighteenth and nineteenth centuries when Salem was a significant port of trade. Derby Wharf extends approximately 2,045 feet from Derby Street into the channel of the South River. A small brick lighthouse, built by the Coast Guard in 1871, is located on the far end of the wharf. The wharf was largely rebuilt by the NPS in 1938, immediately after its acquisition. Two wooden finger piers were added to the east side of the wharf in 1966, when the NPS entered into a cooperative agreement with the city of Salem to build and operate public boat landings (Brady and Wilson 1982:1, 29). More recently, a concession permit allowed the brigantine *Republic*, a historic period sailing ship, museum, and gift shop, to dock on the west side of Derby Wharf, approximately 250 feet from its northernmost jog (Brady and Wilson 1982:2). This arrangement existed until 1983.

Central Wharf, formerly known as Forrester's Wharf, is located 150 feet west of Derby Wharf and extends approximately 800 feet from Derby Street into the South River. The original wharf, which was built in stages between 1791 and 1820, was of cobb and solid timber construction. In 1947, the Navy entered into a cooperative agreement with the NPS to use Central Wharf for the operation of a Naval Reserve Training Center. The west bulkhead was extended 100 feet on the west side using interlocking steel sheet piling with tie rods every 20 feet. After 1972, Central Wharf was used as a marina for small pleasure boats; later, the U.S.S. *Seadog* was moored to the east side of the wharf (Wilson and Morgan 1980:11-12).

Hatch's Wharf, located between Derby and Central wharves, extends only 160 feet from the south side of Derby Street. The first timber wharf in this location was constructed by 1795 and the present configuration was established by 1859.

III. LAND-USE HISTORY

A. HISTORICAL OVERVIEW

The original settlement of Salem, first known as Naumkeag, was established in 1626 under the leadership of Roger Conant, who acted on behalf of the Dorchester Company (Friedlander et al. 1991:7). Naumkeag was the Native American name for the peninsula between the North and South rivers and meant "fishing place" (Mrozowski et al. 1988:53). In 1628, the Dorchester Company was subsumed into the New England Company, a Puritan organization that combined economic enterprise with religious vision. Fifty new settlers arrived on the *Abigail* in 1629 and renamed the settlement "Salem," a corruption of the Hebrew word "shalom," meaning "place of peace" (National Park Service 1987:18).

In 1630, the New England Company was reorganized as the Massachusetts Bay Company. That spring, John Winthrop led a third migration to Salem that increased the number of inhabitants to nearly 1,000. Winthrop was dismayed to find that over 60 colonists had died during the winter from illness and lack of food. Winthrop moved the capital of the colony, known as Massachusetts Bay, to Charlestown and then to Shawmut (Boston), where resources were more plentiful. Salem survived by exploiting fish for both sustenance and income. Fishing fleets were constructed and based in Salem, and dried fish (particularly cod) and fish oil were traded in the West Indies for sugar, molasses, rum, and indigo (Phillips 1933).

Salem vessels engaged in privateering during the War of Independence and captured over 400 British vessels. Salem was the only New England port that was not captured by the British during the war. At the end of the war, the commercial economy of Salem had to be rebuilt, and Salem's merchants, many of whom made their fortunes through privateering, re-established their fishing fleet and old trade routes. In 1784, Elias Hasket Derby's ship, the *Grand Turk*, voyaged around the Cape of Good Hope and began an era of trade with Asian ports. Overseas trade with other North American ports, the Caribbean, Europe, and Asia dominated the economy of the city from the late eighteenth century to the mid-nineteenth century (National Park Service 1987:38-39).

Derby Street was laid out around 1760 along what was the original South River shoreline; this area had been the location of fish flakes, wooden frames for drying cod, since the seventeenth century. By 1780, the area south of Derby Street was dominated by merchants' wharves, and most of the fish flakes had been relocated to the North River. By 1790, Salem was a center of world trade; it was the sixth largest city in the nation and the richest per capita. Salem's waterfront at this time was a mass of shipyards and wharves, and shipping-related businesses crowded Derby Street (National Park Service 1987:30-31). During its maritime heyday, over 40 wharves had been constructed along the South River's western shore.

In the seventeenth century, the South River formed a sizable harbor that was deep enough to accommodate the ocean-going vessels of that time. By the mid-nineteenth century, however, Salem's maritime supremacy was over, partly because the South River had begun to silt up and became too shallow for the larger commercial ships of the period. With Salem's eclipse as a major port, industrial enterprises, including cotton mills, tanneries, and shoe manufactures, replaced the former shipyards. These industries attracted many Irish immigrants in the second half of the nineteenth century and primarily Polish immigrants at the turn of the century.

In 1762, Richard Derby began landfilling operations on the beach land and flats south of Derby Street to create a firm head for Derby Wharf. The original portion of Derby Wharf, known as Old Derby Wharf, was constructed between 1764 and 1771. Old Derby Wharf, which was of solid timber construction without masonry bulkheads, extended 800 feet into the channel of the South River, making it the longest wharf in Salem. In 1765, Richard Derby's son, Elias Hasket Derby, erected a warehouse and counting house, known as the Upper Store, on the northern end of the wharf; six years later, he erected a warehouse, known as the Lower Store, on the southern end of the wharf (Snell 1974a:36-37). In 1784, the eastern side of Derby Wharf was faced in stone for a distance of about 667 feet (Snell 1974a:39-40). By the time of Elias Hasket Derby's death in 1799, most of Derby Wharf had been faced in stone (Small 1941:6). In 1789, Elias Hasket Derby began filling the land adjacent to the east side of Derby Wharf to create a site for a shipyard, advancing the waterfront lot lines about 94 feet further into the South River (Brady and Wilson 1982:8; Friedlander et al. 1991:Historical Base Maps).

Between 1806 and 1808, the heirs of Elias Hasket Derby constructed New Derby Wharf, which consisted of a 1,124-foot timber-cobb extension and a 166-foot pier of solid timber. Hence, Derby Wharf, with a total length of 2,093 feet, remained Salem's longest wharf (Snell 1974a:55). The methods of constructing this portion of the wharf were revealed during the 1938 reconstruction by the National Park Service (Brady and Wilson 1982:21). For the foundations of the walls, large rafts of hewn timbers were floated into position at high tide and held in alignment by guide piles driven into the mud flats. These rafts settled into the mud under the weight of the walls built above them. When a section of wall was complete, it was filled with earth. Shifting that occurred during construction accounts for some of the irregularity in the line of the wharf. To create a satisfactory berthing wall, timber platforms were erected along the wharf, one side resting on the wharf wall and the other carried by piles (Small 1941:8).

By 1809, seven warehouses had been constructed on the east side of New Derby Wharf. Two more warehouses were built by 1811 and a tenth was constructed in 1812. By 1819, there were five large frame warehouses on pile foundations adjacent to Old Derby Wharf. The Upper Store was removed from Derby Wharf in 1819 so as not to obstruct the view from the new U.S. Custom House. Beginning in 1824, the newer part of Derby Wharf was gradually faced with stone sea walls (Snell 1974a:63, 66). In 1871, the U.S. government erected a lighthouse at the end of Derby Wharf. There were few improvements on the wharf after this time, and after 1890, the wharf and warehouses were allowed to deteriorate.

The area east of Derby Wharf, which became known as Derby Beach by the mid-nineteenth century, consisted of two waterfront lots (Lot A and Lot B) that Richard Derby, Sr., had purchased in 1760 and 1762. These lots, which had been filled to create new land and were faced with timber wharfing, became the property of Elias Hasket Derby in 1785, and four years later he expanded the wharves further south into the harbor. Derby may have operated a shipyard in this area in 1790 or 1791 before moving his shipbuilding activities to Stage Point, and in 1796 he leased a boatbuilder's yard south of Derby Street, probably on Lots A and B. This yard is possibly the one operated by Benjamin Hawkes and John Babbidge. Hawkes continued to build ships in this area from 1800 to 1821 (Snell 1977:17-18, 38-39). By 1805, the waterfront east of Derby Wharf had been extended to about 144 feet south of Derby Street. Subsequent landfilling episodes produced a shoreline about 238 feet south of Derby Street by 1874 and 382 feet south of Derby Street around 1893 (Snell 1974a:138-140).

Around 1837, these former waterfront lots contained a grocery store, operated by Isaac P. Foster, and several stables; by 1874, there were several stores and associated barns and sheds in the area (Friedlander et al. 1991:216-218, 221). The final expansion of the waterfront lots in the 1890s was the site of the Boston and Northern Street Railway Company car barn. Tracks for this street railway extended down Derby Wharf, and a two-story brick powerhouse was constructed near the southern end of the wharf, just before the jog by the lighthouse (Snell 1974a:75).

Central Wharf was formerly known as Forrester's Wharf after Simon Forrester. In 1791, Forrester purchased a cobb wharf and warehouse from Captain Jonathan Ingersoll, who had constructed the first wharf at this location circa 1784 (Snell 1974b:16-18). Forrester constructed a brick warehouse on Derby Street at the head of the wharf in 1791-1793, and between 1792 and 1798 he expanded the wharf several times. By 1804, Forrester completely rebuilt and enlarged the cobb wharf in solid timber construction; when completed, the southern end of Forrester's Wharf extended 273 feet south of Derby Street (Snell 1974b:20). Between 1805 and 1820, Forrester again extended the wharf using timber-cobb construction to a length of almost 800 feet. Between 1820 and 1874, six frame buildings were added to the wharf (Friedlander et al. 1991:138; Snell 1974b:8). The 1851 McIntyre map of Salem (Figure 3) shows three storehouses on this wharf associated with Augustus T. Brooks, a dealer in flour, grain, coal, and West Indian goods (Friedlander et al. 1991:34).

Central Wharf was rebuilt in 1896-1897, at which time it was enlarged another 25 feet into the South River and widened from 35 to 43 feet. The old cobb wharf was essentially enclosed within a new timber shell that eliminated the jogs of the earlier plan. The new timber facing was held by steel tie rods that ran through the wharf at about 20-foot intervals. In 1914, a fire destroyed all of the wooden structures that stood on Central Wharf and gutted the brick Forrester Warehouse. Between 1914 and 1936, a marine railway was constructed on Central Wharf. After acquisition by the NPS in 1937, Central Wharf was rebuilt to the design of 1896. New steel tie roads were placed 5 feet apart and attached to timber deadmen buried in the wharf; by 1941, however, portions of the reconstructed bulkhead walls had already buckled (Wilson and Moran 1980:8-10). In 1947, the NPS entered into an agreement with the Navy that allowed



FIGURE 3: The Project Area, Circa 1851

them to construct and operate a Naval Reserve Training Center on the wharf. Soon after, the Navy extended the bulkhead line on the west side using interlocking steel sheet piling. The construction of the Naval training center buildings involved considerable excavation to accommodate concrete pile foundations. The Navy, which used Central Wharf considerably until the early 1960s, refused to rebuild or repair the wharf, and by 1966 major structural failures had occurred. The Navy vacated the property in 1972; sometime later, the U.S.S. *Seadog* was moored to the east side (Wilson and Moran 1980:11-12).

Hatch's Wharf, the relatively short wharf located between Derby and Central wharves, was originally developed by Captain John White, who constructed a timber wharf and a warehouse at this site by 1795. By 1818, the wharf had an L-shaped plan and extended 125 feet from Derby Street. The wharf was enlarged several times and rebuilt in 1853 to its present length of 160 feet (Snell 1974b:67-76). Hatch's Wharf does not appear to have changed since then. The 1851 McIntyre map labels the wharf as "L.B. Hatch Wood Wharf" (see Figure 3). L.B. Hatch was associated with a business at 113 Derby Street as early as 1836. The wharf proper, however, was owned by Theophilus Sanborn, who acquired it in 1834. George, Franklin, and Theophilus Sanborn, partners in T. Sanborn & Company, dealers in coal and wood, were listed as proprietors of a wood wharf in 1842 (*Salem Directory and City Registers* 1842:78-79). The wharf remained in the hands of the Sanborn family until 1889 (Essex County Deed Book 1240:163, 164).

B. ARCHEOLOGICAL PRESERVATION POTENTIAL

This evaluation of the potential for undisturbed archeological resources at Salem Maritime National Historic Site is based on an analysis of historic land uses, documentation of ground disturbances and dredging, and the results of previous archeological testing and monitoring.

The first major repairs recorded for Derby Wharf occurred in 1820, when decayed timbers were replaced and 160 feet of the west side of the cobb wharf rebuilt (Snell 1974a:65). Beginning in 1836, the Derby Wharf Corporation appropriated money to excavate a channel in the South River between Derby Wharf and Salem harbor. In 1851, a winter storm severely damaged Derby Wharf, leading to a series of repairs that were undertaken between 1851 and 1867.

Shortly after the National Park Service made the initial acquisitions for the establishment of Salem Maritime National Historic Site, a program of demolishing buildings, landscape modifications, and structural rehabilitation was begun (compare Historical Base Map Subsheets 1 and 2 in Friedlander et al. 1991). These changes were made in an attempt to re-create a more historic setting, even though Derby Wharf lacked the buildings and activity that typified its commercial tradition.

Buildings that were razed by the NPS included tenements, stores, dwellings, and social clubhouses at the head of Derby Wharf; several early nineteenth-century stores along the north side of Derby Street; and a cluster of nineteenth-century tenement structures and early twentieth-century garages located to the rear of the Hawkes and Derby houses. Also, the West India

Goods Store was relocated to its original location from a site at the southwest corner of the Derby House. Yard areas of the Hawkes and Derby houses were graded, and spoil from this area, which included building rubble, was used as fill in the 1938 reconstruction of Derby Wharf (Salem Maritime National Historic Site 1937-1939). In 1939, brick walks were constructed behind the Custom House and the Hawkes House, and ornamental trees and shrubs were planted. Two 20-foot horse chestnut trees were planted in front of the Derby House after a 40-year-old chestnut tree had been removed, and the newer trees were later removed, roots and all. Also, a 60-foot-high elm was planted and later removed from the front yard of the Hawkes House. The Narbonne House and lot were acquired in 1963, and two years later the NPS demolished a garage/carriage house at the rear of the house.

A 1937 engineer's report on the condition of Derby Wharf indicated that sections of the wall had lost all form and character, fender piles had been pushed out, and cap stones were missing (Sweeny et al. 1937). However, sections of the wall, which included distinct set backs and some groups of pilings, were well preserved. Foundations for approximately 400 feet of sea wall were excavated on both sides of the wharf. During these excavations, part of the old sea wall believed to date from 1754 was exposed. A 140-foot section of the foundations from the west wall was rebuilt, and the sea walls were either reinforced or rebuilt. Both sides of Derby Wharf were dredged, and some of the spoil was used to fill cellar holes of demolished buildings.

During the reconstruction of Derby Wharf, an area of up to 100 feet on all sides of the wharf was dredged to a maximum depth of 15 feet below mean low tide (National Park Service 1937). In addition, several channels have been dredged since NPS acquisition to maintain clear dockage. These included an 8-foot-deep, 100-foot-wide channel on the east side of Derby Wharf that widened into a 200-foot side anchorage basin, and a 10-foot-deep, 150-foot-wide channel from the end of Derby Wharf to the main channel of the South River; this latter channel continues on the west side of Derby Wharf, where it narrows to 50 feet (U.S. Army Corps of Engineers 1966). These various and repeated dredging activities have undoubtedly affected the preservation of underwater archeological remains.

Central Wharf was also reconstructed in 1938-1939. Prior to this work, the NPS razed various structures on the wharf, including a brick warehouse, a frame warehouse, a pump house, a lobster shed, and an ice house. The remains of the brick Forrester Warehouse were initially retained and used to house a carpenter's workshop but were demolished in 1948, soon after the establishment of the Naval Reserve Training Center (Wilson and Moran 1980:13; Virgil 1966:3).

The results of previous archeological testing at two locations within the project area—the Narbonne House lot and Central Wharf—also provide information useful in making assessments of archeological resource preservation in the project area.

Archeological investigations at the Narbonne House were initiated in 1973 to clarify architectural issues related to the dwelling. Testing was expanded into the rear yard, where a coach house, a dairy, a well, five privies, trash pits, and a cobble driveway were identified (Moran et al. 1982). Over 138,000 artifacts were recovered, including a range of fine, late eighteenth-century English ceramics and Chinese porcelain. Although the original portion of the house was built

circa 1671, no clearly defined, undisturbed seventeenth-century deposits were identified during these archeological investigations. Archeological remains in the Narbonne House yard were well preserved for two main reasons. The first is that the house had remained on the same lot without any subdivision from the seventeenth through twentieth centuries. The second is that the Narbonne family and descendants, who owned the house from 1820 until it was purchased by the National Park Service in 1963, made virtually no alterations to the house or property. Although the National Park Service demolished the garage/carriage house and installed a brick walk, these actions did not create major ground disturbances, unlike the demolition and landscaping activities undertaken in the front and rear yards of the Hawkes and Derby houses.

Archeological testing along Central Wharf was conducted in 1973 to investigate the condition of the wharf prior to a reconstruction project that took place in 1975, at which time an archeological monitor was present (Wilson and Moran 1980). These investigations indicated that major rebuilding of Central Wharf in 1896, which replaced most of the pre-existing structure and included installation of tie rods, had disrupted or destroyed much of the original architecture and stratification of the wharf (Wilson and Moran 1980:183-184). Disturbances to the historic fabric of the wharf were also created by the National Park Service reconstruction of 1938-1939.

The archeological testing at Central Wharf in 1973 encountered a section of bulkhead about 4 feet below ground surface that was interpreted as part of the 1805 wharf line (Wilson and Moran 1980:185). Wilson and Moran initially recommended that further investigations should be conducted at the projected juncture of the 1795-1805 solid wharf with the 1820 cobb wharf. However, monitoring during wharf reconstruction indicated that modern intrusions in this area were extensive. The expanded excavations that took place during wharf reconstruction revealed a plank floor and associated log structure; these were interpreted to be part of the 1820 cobb wharf, although no temporally diagnostic artifacts were found in the fill associated with this structure. It appeared that the top 6 to 7 feet of this structure had been demolished and removed during rebuilding in 1896-1897 (Wilson and Moran 1980:192). Datable fill from the excavations along Central Wharf all post-dated 1860, with the majority dating to the late nineteenth century.

In summary, excavations along Central Wharf demonstrated that large portions of the early wharves had deteriorated or been replaced through cycles of maintenance and reconstruction. Modifications to and rebuilding of the wharf have certainly altered its historic fabric and have probably impacted the integrity of archeological resources associated with the wharf, although some intact sections of the historic wharf have been encapsulated by later wharf construction. In contrast, the excellent preservation of archeological features within the Narbonne House property can be attributed to the lack of intensive land use, such as tenement construction, and to the relatively minor landscaping activities undertaken by the National Park Service.

The archeological base map prepared by LBA shows the locations of previous archeological investigations at the Narbonne House and Central Wharf, as well as the results of the remote sensing project described in the following chapter (Figures 4A and 4B). This base map also shows the locations of select former structures and wharves that are considered to have high archeological potential based upon a lack of documentation of major ground disturbance. These

structures include the circa 1783 wharves east of the Forrester Warehouse, the 1805 configuration of Hatch's Wharf, the circa 1785 Upper Store at Derby Wharf, and the privies at the rear of the Custom House lot.

IV. ARCHEOLOGICAL REMOTE SENSING PROJECT

A. INTRODUCTION

At the same time that LBA was investigating the land-use history of the project area and evaluating the effects of cycles of construction and demolition on the preservation of archeological resources, a remote sensing study was undertaken to locate anomalies that might indicate buried archeological remains. The remote sensing project consisted of two independent studies, a marine survey and a terrestrial survey. The investigation for underwater resources was performed by Dolan Research, Inc., using magnetometer, sonar, and sub-bottom survey methods. The terrestrial remote sensing survey was performed by Dr. Bruce Bevan, Geosight, and included the use of conductivity, magnetometer, and radar instruments. Complete descriptions of the marine and terrestrial remote sensing surveys are included as Appendix A and Appendix B, respectively, of this report.

B. MARINE SURVEY

1. Technical Approach

The boundary for the marine remote sensing survey was defined by the National Park Service as the bathymetric boundary of Salem Maritime National Historic Site (Figure 5). This included the perimeter of Central, Hatch's, and Derby wharves; the entire area between the wharves; and seaward of the beach between Kosciusko Street and Derby Wharf. Particular attention was focused on the west side of Derby Wharf, an area which might be dredged to accommodate the docking of a historic or historic-replica ship.

The marine survey was designed to identify significant magnetic, acoustic (side-scan sonar), and seismic (sub-bottom) anomalies, or targets, that could represent submerged cultural resources. Survey work was carried out from a 20-foot, shallow-draft vessel suitable for river and shoal water operations. Positioning for the survey was provided by a Motorola Mini-Ranger III microwave positioning system. Two mini-ranger transmitters were established at control stations on the adjacent shoreline, one at St. Joseph's Hall and the other at the warehouse/visitor center on the south side of Derby Street. The vessel's distance in meters from these two stations was continuously recorded.

The magnetic survey consisted of readings along 14 lanes around Derby and Central wharves. Magnetic data were collected using a Littlemore Scientific proton procession magnetometer (Model 7702), which is capable of ± 1 gamma resolution. A 2-second sampling rate by the magnetometer's towed sensor, coupled with a 3.5- to 4-knot vessel speed, assured readings at 3-meter intervals. Magnetic records were annotated at 25-meter intervals, referred to as event marks, at which time the coordinates of the survey vessel were recorded in a log book. To allow for the detection of subtle magnetic anomalies typically associated with smaller wooden

sailing vessels, survey lane spacing for the magnetic survey did not exceed 10 meters. After the initial data were collected, detailed magnetic profiles were completed on each of the identified significant anomalies. Magnetic data were contour plotted at 5-gamma intervals.

Fourteen survey lanes were also completed for the side-scan sonar and sub-bottom surveys. A Klein three-channel acoustic recorder with both 100 kHz side-scan and 3.5 kHz sub-bottom sensors was used to collect acoustic and seismic data. Because of shallow water near the base of each wharf, this remote sensing equipment could only be deployed during periods of rising tide. All acoustic and seismic data were recorded on wet chemical paper. Acoustic and seismic targets were plotted, and an overlay was produced to correlate with the magnetic contour map.

2. Results

Observations at low tide indicated a high degree of siltation around the wharves and the presence of modern trash (Plates 1 and 2). Problems encountered during this marine survey included considerable interference in readings due to the metal sheathing and tie rods of Central Wharf and the narrowness of the channels between the wharves.

Extreme magnetic distortion was detected, particularly in the vicinity of the steel sheet bulkhead along Central Wharf. The stone and wooden bulkheads were also a source of magnetic disturbance because they are held together with extensive amounts of iron. Heavy industrial and commercial development in the project vicinity also produced interference with magnetic readings. During low tide, miscellaneous ferrous material was observed in the project area. Two-inch-diameter cables were observed in two locations, one along Derby Beach and the other east of the lighthouse (Plate 3). Two magnetic anomalies were clustered on the east side of Derby Wharf near its far end (see Figure 4B). These were abbreviated m2:15a and m2:15b, the m for magnetic anomaly, the 2 for the number of the survey lane, and the 15 for the event mark, which provides a distance along the survey lane. The magnetic signature at m2:15a & b is characteristic of modern ferrous material and may have been caused by a section of cable that was observed in the vicinity (see Appendix A).

Shallow water, particularly near the waterfront east of Derby Wharf, restricted the collection of acoustic data in portions of the survey area. Two targets were identified during this part of the survey: one side-scan (ss) sonar target (ss7:10.5) was located between Derby and Central wharves, and one sub-bottom (sb) target (sb11:1) was located west of Central Wharf (see Figure 4A). The anomaly detected by sonar was interpreted as a scatter of material with two primary components covering an area approximately 15 to 20 feet long. This target was located adjacent to a mooring platform, and the platform or the two boats that were docked there at the time of the survey are probably the source of these readings (Plate 4). In addition, this location is within an area that was previously dredged to accommodate a naval submarine (Wilson and Moran 1980:12). Presumably, this anomaly does not represent the location of significant cultural resources.

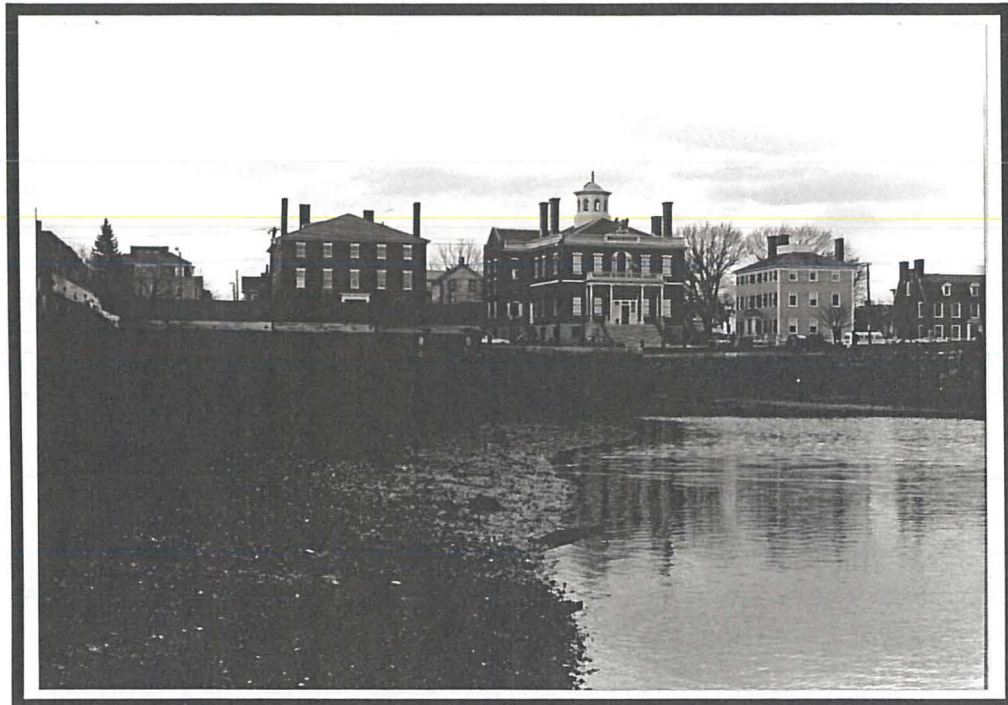


PLATE 1: View North to U.S. Custom House and Derby Street Properties from the East Side of Central Wharf



PLATE 2: View North to Derby Street Across West Side of Derby Wharf

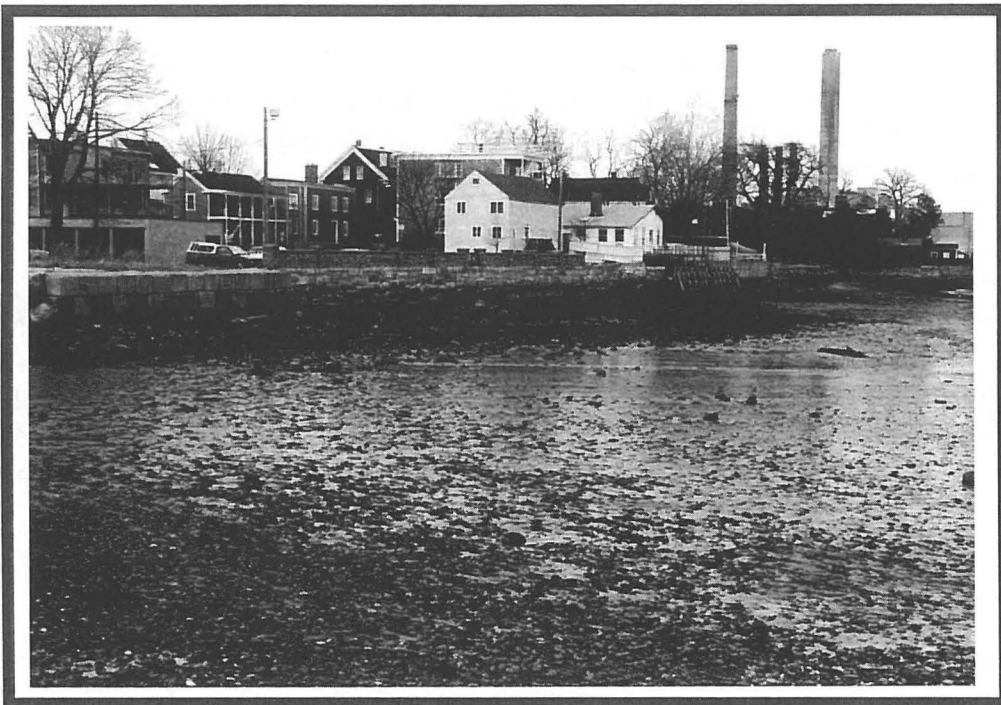


PLATE 3: View of "Derby Beach" Area, Foot of Kosciusko Street



PLATE 4: View South to Salem Harbor with East Side of Central Wharf in Foreground

The sub-bottom target was located in front of a boat slip east of Pickering Wharf and covered an area 10 to 15 feet long. Analysis of the sub-bottom data suggests that the target was beneath 5 to 7 feet of sediment. This is also an area that has recently been dredged to accommodate marine traffic at Pickering Wharf, suggesting that the target is probably not archeologically significant.

In summary, three remote-sensing targets exhibiting signature characteristics of submerged material were identified. One was a magnetic anomaly located about 85 feet east of Derby Wharf near its southern end, another was an acoustic (sonar) anomaly located between Derby and Central wharves, and the third was a seismic (sub-bottom) anomaly identified west of Central Wharf. Given the site's history of channel dredging, modern recreational boat activities, and location of utility lines, it is unlikely that any of these anomalies represent significant archeological remains.

C. TERRESTRIAL SURVEY

1. Technical Approach

The remote sensing survey of the terrestrial portion of Salem Maritime National Historic Site was divided into two areas separated by Derby Street. The area south of Derby, which included Hatch's Wharf and the heads of Derby and Central wharves, was surveyed using magnetometer and electromagnetic (conductivity and resistivity) instruments (Plate 5). North of Derby Street, both ground-penetrating radar and electromagnetic surveys were conducted in open areas surrounding the Custom House, the Hawkes House, the Derby House, and the Narbonne House.

The magnetometer survey, which provided information on buried iron, used a pair of GeoMetrics G-856 proton magnetometers. One of the instruments was used as a base station to monitor temporal changes in the earth's magnetic field; a total of 1,343 measurements of the spatial magnetic field were taken. The magnetometer survey did not include the area north of Derby Street because of the large amount of brick in the surrounding buildings, walls, and paths.

Two instruments were used to measure soil conductivity and thereby identify areas of soil contrast. A Geonics EM31 terrain conductivity meter was used in the area south of Derby Street. This instrument averages the electrical conductivity of soil to a depth of about 20 feet. A total of 1,267 paired readings were taken with this instrument. A Geonics EM38 instrument, which has a depth range of about 5 feet, was used only in the rear yard of the Derby House; a total of 424 measurements were taken at 5-foot intervals in this area. The resistivity survey consisted of 467 measurements taken along seven profiles using a SAS300B resistance meter manufactured by ABEM. Resistivity is the reciprocal of conductivity; a high value of resistivity means that conductivity is low.

Ground-penetrating radar was used in the project area north of Derby Street to detect both changes in soil and the presence of buried objects that cause electromagnetic radar waves to be reflected. The radar survey was conducted in lanes 5 feet apart, except in the yard north of the



PLATE 5: Conductivity Survey in Progress at the Head of Derby Wharf, with the Custom House in Background

Derby House where the interval was reduced to 2.5 feet. A total linear distance of 9,735 feet was surveyed by radar. The instrument used was a Geophysical Survey Systems SIR System-7, Model 3102, with a high resolution (315 MHz) antenna. One problem encountered by the radar survey was the inability to penetrate walks covered with crushed stone, possibly because of the presence of an aluminum sulfate chemical used to prevent weed growth. The depth scale on the radar profiles was estimated by geometrical analysis of the shape of echo arcs created by buried objects or soil changes.

All terrestrial remote sensing data were tied to a site grid that was established at the start of the project. The reference or datum point for this survey was located on the northern curb of Derby Street, with the street alignment serving as the east-west axis of the grid (see Figure 4A).

2. Results

The magnetic survey south of Derby Street indicated several anomalies that are interpreted as interference from parked cars along Derby Street and from buried pipes, wires, or other linear metallic features (see Appendix B figures). The large-amplitude magnetic anomalies along the path to Derby Wharf could represent wharf reinforcements, pipes, or industrial debris. Except for a few large masses of buried iron, the magnetometer survey did not locate possible evidence of the structures that are known to have occupied this area.

The conductivity readings south of Derby Street indicated a very large range of conductivity. Highly conductive materials could be either clay or soils saturated with salt water; low conductivity could represent soil with little or no clay content. A sharp contrast in soil conductivity was detected approximately 150 feet south of Derby Street; the resistivity soundings support the findings of the conductivity survey. This transition appears to indicate a change in the type of fill used as land in this area was built rather than the effects of seawater saturation of fill soils. Analysis of historic maps indicates that this transition is near the location of the shoreline from circa 1805 to 1890 (Friedlander et al. 1991:Historical Base Maps). A similar conductivity anomaly was located between Hatch's and Central wharves, but examination of historic maps does not show any correspondence with historic wharf edges.

North of Derby Street, several anomalies were identified by the radar survey (see Figure 4A). Behind the Custom House, a radar signal from a depth of about 3 feet was interpreted as a change in soil type, and four distinct radar echoes, all at depths of 1.2 to 1.3 feet, were interpreted as potential buried objects (see Figure 4A).

The radar survey identified two anomalies of possible cultural interest in the rear lot of the Hawkes House (see Figure 4A). A soil interface was identified at a depth of 1 to 2 feet over a 30x10-foot area. The resistivity readings in this area suggest that this interface was caused by a layer of sandy or gravelly soil below a more loamy soil. This feature may represent the presence of landfill in the location of a nineteenth-century building that was demolished by the NPS in 1937. The other anomaly is represented by an irregular stratum at a depth of about 1.5 feet. Although this feature, which is about 15 feet across, surrounds a tree, it does not appear

to be the result of root disturbance, because other trees in the vicinity did not produce similar patterns. It is possible that this cluster of echoes may represent a cultural deposit.

Three strong radar echoes were recorded in the rear lot of the Narbonne House. Two very deep echoes, at 7.3 feet, were located 4 feet apart and may represent a buried object or deep feature around N293/E10. The soil surrounding these deep echoes produced an array of weaker echoes ranging from 0.8 to 2.3 feet. The third strong echo was located at N325/E40 at a depth of 4.7 feet (see Figure 4A).

Several areas representing irregular soil strata were detected in the rear lot of the Derby House. One area is along the fence that marks the eastern boundary of the park, from about N170 to N190 and from E90 to E110. The closest structure that appears on historic maps is a small, circa 1851 dwelling or shed 80 feet to the south (see Figure 3) (Friedlander et al. 1991:Historical Base Maps). Another discontinuity was detected at N120/E57 at a depth of about 2 feet; this area, which is presently a garden, is near the rear wall of a 1930s garage demolished by the NPS (Friedlander et al. 1991:Historical Base Map Subsheet 2A). Five distinct echoes were recorded in the rear yard of the Derby House and may represent buried objects: N90/E66 was 5.9 feet deep; N94/E30 was 4.7 feet deep; N130/E55 was 3.3 feet deep; N206/E82 was 1.6 feet deep; and N215/E100 was 4.3 feet deep (see Appendix B).

In summary, several major changes in soil conductivity were identified south of Derby Street in the area of the historic waterfront lots and wharves. At least one major soil interface, east of Derby Wharf, appears to record the shoreline that existed from circa 1800 to the 1890s, referred to as Derby Beach. North of Derby Street, the radar survey detected several areas of soil discontinuity as well as isolated echoes that may represent buried objects. At least some of the soil discontinuities appear to represent the locations of former structures or plantings that were removed by the NPS.

D. GROUND TRUTHING

Limited archeological testing was conducted to evaluate some of the anomalies and targets identified by the terrestrial remote sensing project. Field testing was conducted in two episodes, the first between June and July 1990, when archeologists were present to monitor geophysical tests on Derby and Central wharves; this episode of testing was confined to the area south of Derby Street. The second episode of testing was conducted on May 26 and 27, 1992, to examine several of the radar anomalies located in the rear lots of the Custom House, the Hawkes House, the Derby House, and the Narbonne House. The decision of where to locate shovel tests to evaluate the results of the terrestrial remote sensing survey was made by the LBA Principal Investigator in consultation with NPS Archeologists Dana C. Linck and Dick Ping Hsu.

Testing used a combination of shovel, posthole digger, and split-spoon auger to reach the suggested depths of each anomaly. All excavated soil was screened through ¼-inch hardware mesh. Stratigraphic descriptions, which included soil texture and hue, were recorded on

standardized forms, and Munsell Soil Color charts were used to identify soil color. Where deposits were obviously fill, only potentially diagnostic artifacts were kept.

South of Derby Street, shovel tests were proposed along three transects (A, B, and C) to examine changes that were detected in soil resistivity. Transect A projected south from Derby Street along the W40 baseline east of Derby Wharf, and perpendicular to the former shorelines and Derby Beach. Transect B, located along the S90 baseline between Central and Hatch's wharves, crossed another resistivity boundary. Transect C was located along the W240 line and crossed a circa 1805 wharf line that was considered to have high archeological potential because of the lack of modern additions or reconstruction; no soil anomalies had been detected in this area by remote sensing.

A total of 18 shovel tests were excavated at 10-foot intervals along Transect A from S70/W40 to S240/W40 (Figure 6). Of particular concern was the investigation of a relatively shallow soil anomaly that ran east-west between S180 and S200. Results of shovel testing indicated that the change in soil conductivity was probably caused by a contrast between the nineteenth-century shoreline, referred to as Derby Beach, and a major expansion of landfill into the South River that occurred between 1890 and 1897 (Friedlander et al. 1991:Historical Base Map Subsheets 3 and 4).

The excavated soils north of the transition, in tests S70 through S170, contained a large amount of gravel fill and rubble which included chunks of concrete, quantities of brick, window glass, roofing tar paper, asphalt, and metal fragments (Figure 7). The fill/demolition deposits were difficult to excavate and, as a result, few of the shovel tests attained the targeted 4-foot depth. The rubble in this area is presumably associated with the demolition of former structures that stood in this vicinity (Friedlander et al. 1991:Historical Base Maps). Shovel tests excavated south of the soil discontinuity, in the 1890s landfill, located thick ash and cinder deposits that may be associated with the operation of a railroad depot in this area in the late nineteenth century. Domestic refuse noted in the thick ash and cinder deposits consisted of ceramics, bottle glass, clay smoking pipes, leather, shell, and bone (see Figure 7). The shovel test at S220/W40 located a large horizontal timber at a depth of 3.8 feet below present grade, but it was not possible to determine if this was part of a structure or merely discarded in the fill. The only building in this vicinity that appears on historic maps is a circa 1897 shed (Friedlander et al. 1991:Historical Base Map Subsheets 4 and 5); if this timber is in situ, it is more likely part of a former bulkhead rather than remains of this insubstantial building. In summary, no natural soils were encountered within or at the base of any of the shovel tests excavated along Transect A. Testing confirmed that the change in soil conductivity was located along the historic shoreline and that the change in fill reflects a major expansion of land building that occurred in the 1890s.

The crew's priority during this phase of fieldwork was to monitor the geophysical tests that were being performed. As a result, no tests were excavated along the proposed Transect B and only four of the proposed nine tests along Transect C were completed (see Figure 6). The testing along Transect C, which extended from S90/W240 to S120/W240, did not recover evidence of

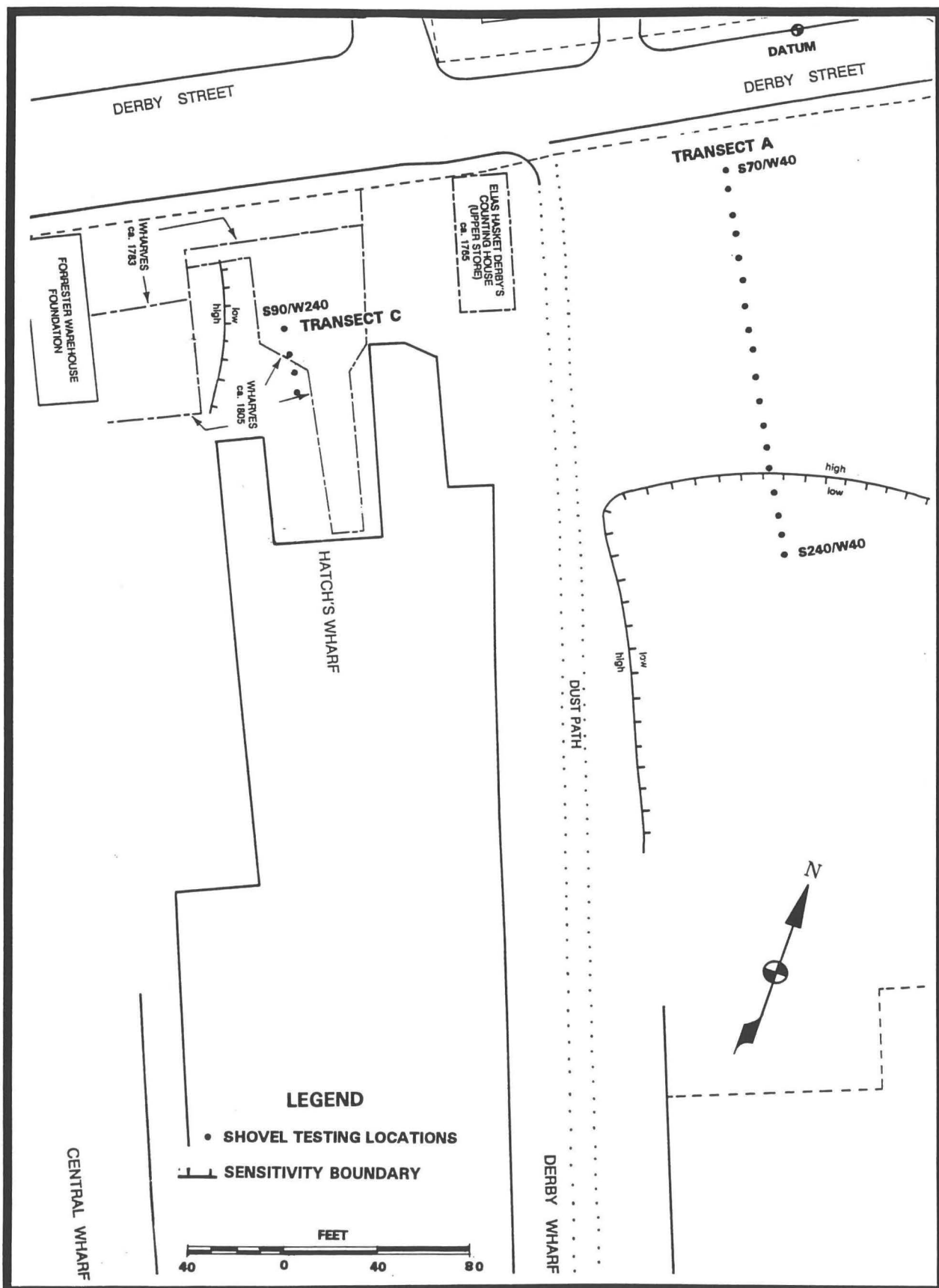


FIGURE 6: Location of Shovel Tests, South of Derby Street

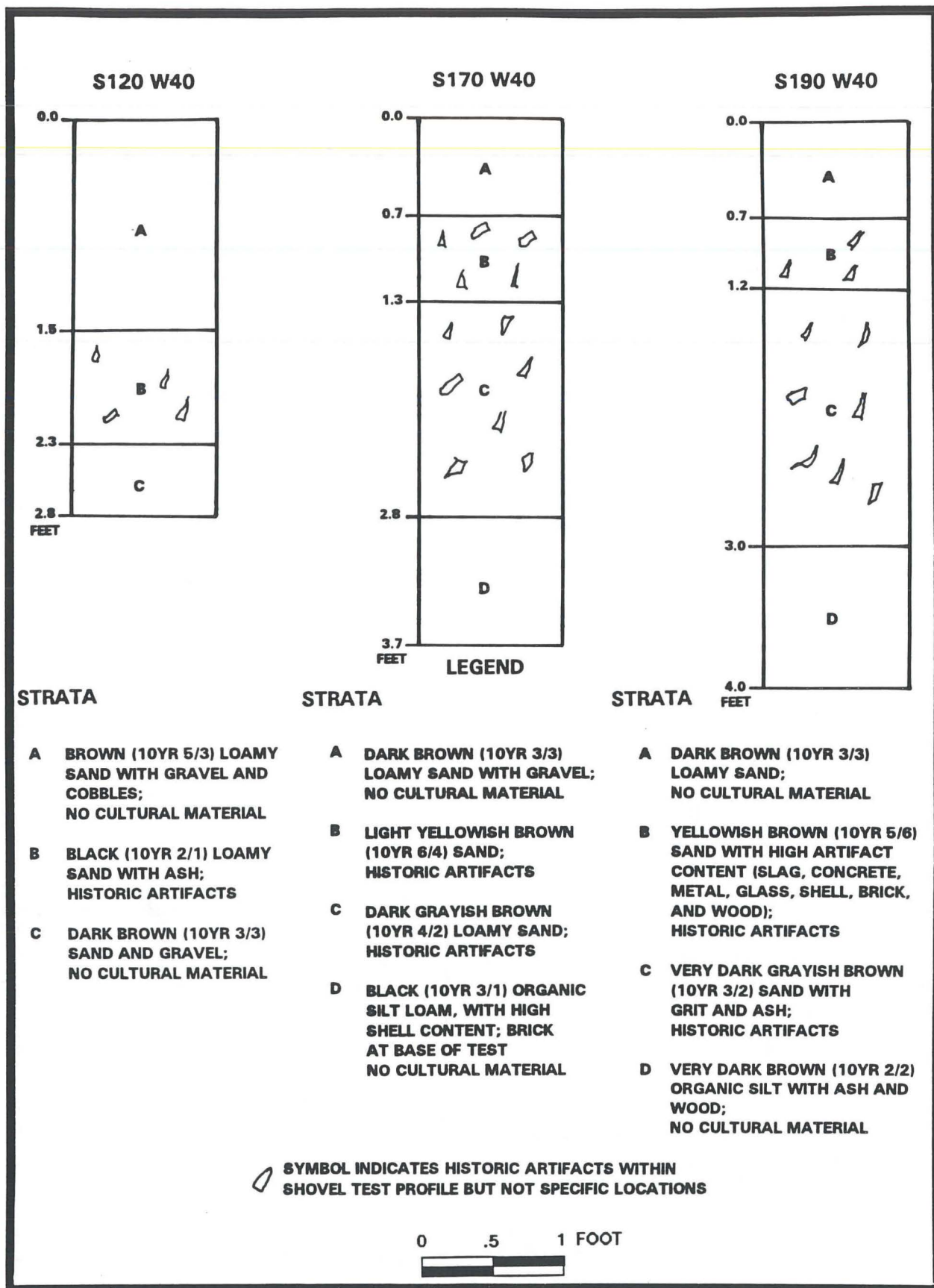


FIGURE 7: Selected Shovel Test Profiles, Transect A

any wharf remains in this area. The soil profiles from the Transect C shovel tests consisted of stratified fill which contained quantities of ash, brick rubble, wood fragments, window glass, and various domestic refuse, including bottle glass, pipebowl and pipestem fragments, whiteware, and animal bone.

A total of 14 shovel tests were excavated north of Derby Street in an effort to evaluate the results of remote sensing. This testing was performed almost two years after the remote sensing survey; therefore, the initial task was to re-establish the grid used by Bevan. Shovel tests were proposed at five transects (D, E, F, G, and H) and at three isolated radar anomalies at the rear of the Custom House (Tests I-1, I-2, and I-3) (Figure 8). Transects D and E were located approximately 50 feet behind the Hawkes House to examine possible soil discontinuities detected by the radar survey. To provide a comparison, Transect F was located in what had been a historically open area where no anomalies had been detected. Transect G was located within a concentration of anomalies near the rear lot line of the Narbonne House, and Transect H was located within a radar anomaly near the east lot line behind the Derby House.

Seven tests were located behind the Hawkes House. Three tests were excavated in Transect D to examine a soil anomaly interpreted as a circular, planar feature about 16 feet in diameter that surrounded a 3-foot-diameter tree. The depth of this interface was predicted at 1.5 feet below present ground surface. The two tests in Transect E, located 10 feet north of Transect D, were within a 32x10-foot soil anomaly also detected at a depth of 1.5 feet. Historical maps of the area indicate that the anomalies investigated by Transects D and E were within an area previously occupied by a tenement building that had been demolished by the NPS in 1938 (Friedlander et al. 1991). All of the shovel tests within these two transects, with the exception of Test D-1, were located in the projected interior of this structure. Two tests were excavated along Transect F, located about 20 feet north of Transect E, or 70 feet north of the rear wall of the Hawkes House. No anomalies had been found in this area, which was historically an "alley" between tenement houses.

With the exception of Test D-2, the first 1.0 to 1.5 feet of soil found in the tested area behind the Hawkes House was a very dark brown (10YR 3/2) fine sandy loam topsoil. Below this horizon in all of the tests was a thick, mottled deposit of coarse sandy fill with rubble (Figure 9). This rubble fill extended more than 4 feet below surface in Tests D-1, D-3, E-1, F-1, and F-2; in Test D-2, excavations were discontinued at a depth of 3 feet because of heavy tree roots. In Test E-2, a deposit of sterile dark yellowish brown (10YR 4/6) sand was encountered between 2.8 and 3.4 feet below ground surface (see Figure 9). Architectural remains consisted of brick and mortar fragments, a single stone building block, nails, and window pane fragments. No in situ structural remains were encountered. High frequencies of domestic materials were present throughout the fill deposit and consisted of bottle glass, ceramics, clay pipes, leather, faunal remains, cinder, and slag. Sterile soil was found in only one excavation, Test F-1, at 4.7 to 5.0 feet below surface, and consisted of olive (5Y 5/3) silty sand (see Figure 9). Testing indicated that the planar soil anomalies identified behind the Hawkes House appear to represent an interface between demolition rubble and the overlying topsoil that was brought in by the NPS for landscaping purposes.

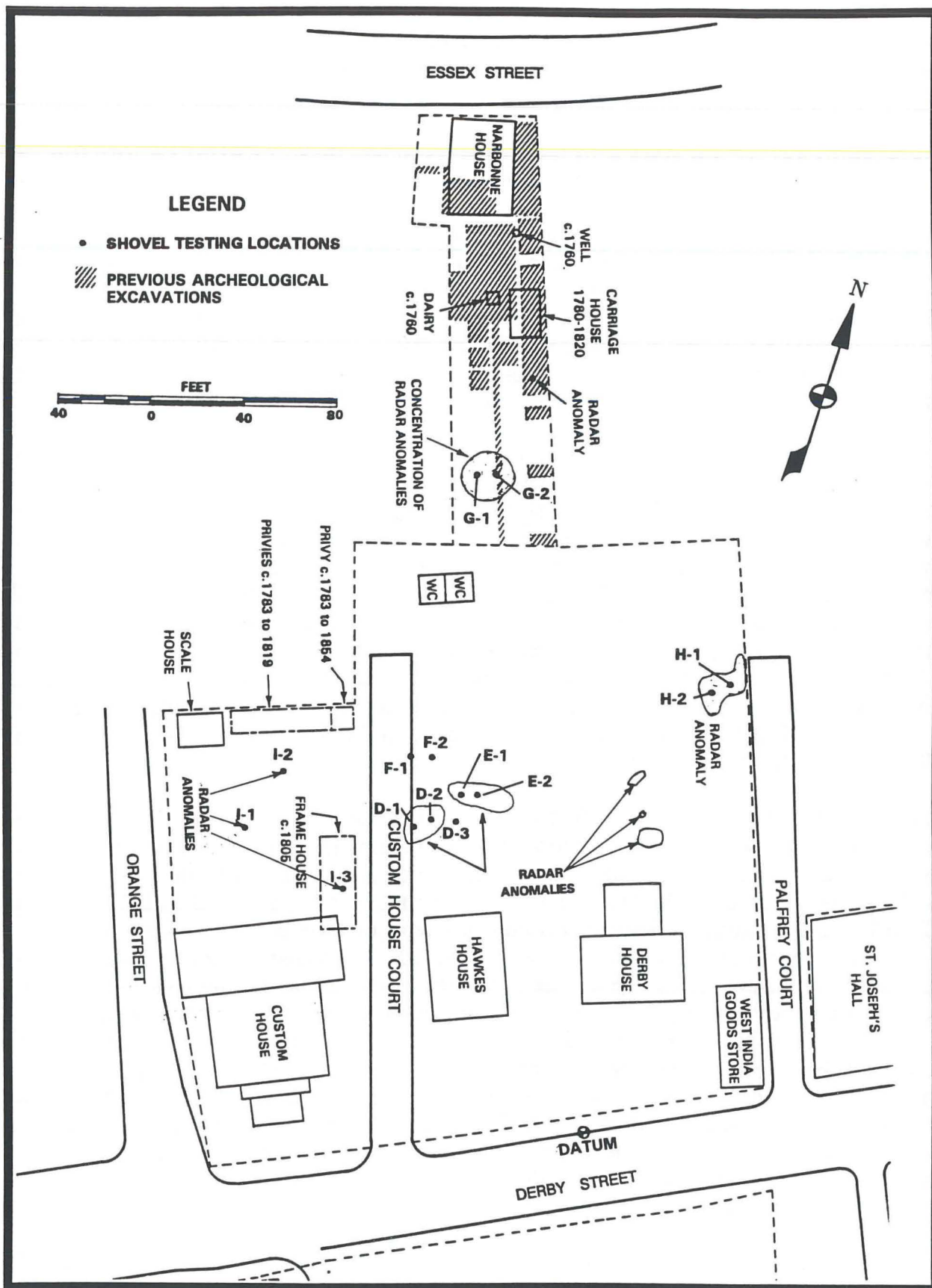


FIGURE 8: Location of Shovel Tests Excavated North of Derby Street

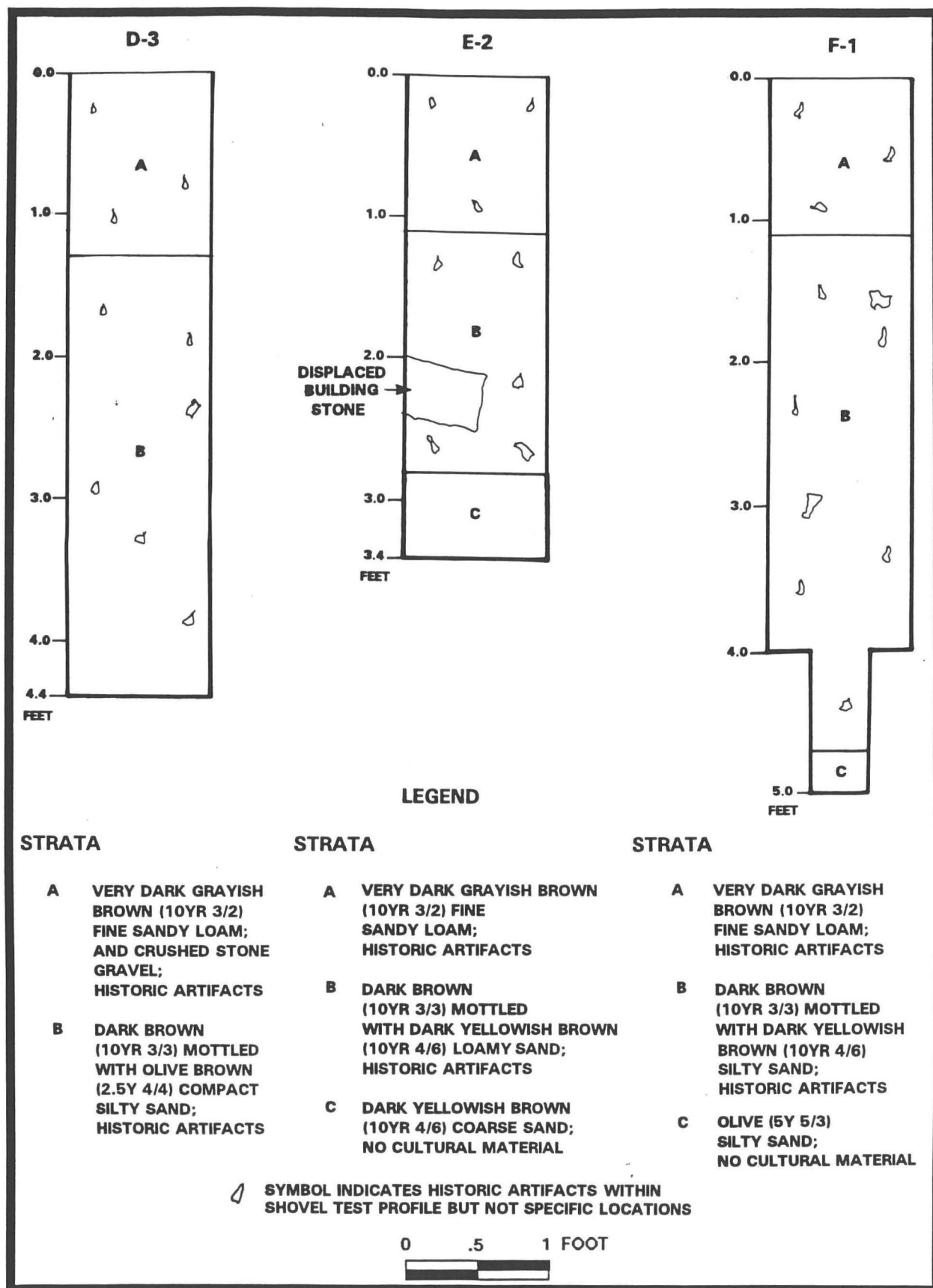


FIGURE 9: Soil Profiles, Shovel Tests D-3, E-2, and F-1

Along Transect G, Tests G-1 and G-2 were excavated in the rear lot of the Narbonne House approximately 75 feet south of the house and about 40 feet north of the NPS washrooms (see Figure 8). This area had produced a subsurface anomaly, 20 feet in diameter and 1.0 to 1.2 feet below ground surface. In addition, a pair of deep echoes had been obtained within the same locus at depths of 7.2 and 7.4 feet. Tests G-1 and G-2 were excavated to a depth of 4.0 feet below surface; it was not feasible during this project to adequately investigate the deep echoes. Both excavations revealed similar stratigraphy and deposits (Figure 10). Stratum A was a very dark grayish brown (10YR 3/2) fine sandy loam that extended below the level of the detected radar anomaly, to 2.0 feet below surface in G-1 and 2.4 feet in G-2. Artifacts recovered in this stratum include butchered bone, nails, and fragments of ceramic, pipes, glass, bricks, and mortar. Plastic sheeting located at the base of Stratum A in G-2 may have been placed in the ground following the previous archeological investigations at the Narbonne House (Moran et al. 1982). Stratum B, a dark yellowish brown (10YR 4/6) medium- to coarse-grained sand, may represent a natural soil. This stratum extended to a depth of 3.8 feet in G-1 and 3.4 feet in G-2. Stratum C was a culturally sterile yellowish brown (10YR 4/6) and light olive brown (2.5Y 5/6) silty sand.

Transect H was located behind the Derby House near the fence along Palfrey Court to evaluate a large irregular anomaly that had been interpreted as a stratigraphic discontinuity between 0.9 and 1.3 feet below surface. Two tests, H-1 and H-2, were excavated to depths of 4.0 and 3.8 feet, respectively (Figure 11). The upper stratum in both tests was a dark grayish brown (10YR 3/2) sandy loam that contained historic artifacts including bones, brick, window glass, nails, and ceramic and bottle glass fragments. In Test H-1, Stratum B consisted of a layer of dark yellowish brown (10YR 4/6) medium-grained sand with fewer historic artifacts and a high content of waterworn pebbles that extended from 1.2 to 3.0 feet below surface. Stratum C was a culturally sterile yellowish brown (10YR 5/4) coarse sand and gravel that probably represents natural soil (see Figure 11). The stratigraphy in Test H-2 was similar, except for an additional 0.1-foot-thick deposit of coarse cinder that was found at a depth between 1.5 and 1.6 feet, the interface of Stratum A and Stratum B (see Figure 11).

Three shovel tests (I-1, I-2, and I-3) were excavated at the rear of the Custom House to examine isolated radar echoes that had been interpreted as potential objects between 1.2 and 1.3 feet below surface. Test I-1 was located within the approximate center of the rear lot and 42 feet north of the Custom House building. The stratigraphy in this test consisted of a 1.6-foot-thick deposit of very dark grayish brown (10YR 3/2) fine sandy loam that included fragments of brick, ceramic, glass, white-clay tobacco pipes, nails, and cinders (Figure 12). Although some historic ceramics were recovered from Stratum A—two sherds of creamware (1762-1820) and four sherds of pearlware (1775-1840)—this deposit appears to represent graded fill rather than an in situ domestic deposit. Stratum B was a light olive brown (2.5Y 5/6) fine silty sand that extended to a depth of 3.0 feet below surface. This stratum contained a few brick and ceramic fragments and one machine-cut nail (post-1830). Sterile light olive brown very fine sand (Stratum C) was encountered from 3.0 feet to the base of excavations at 4.0 feet below surface. No feature or large object was encountered in this test that would account for the radar echo.

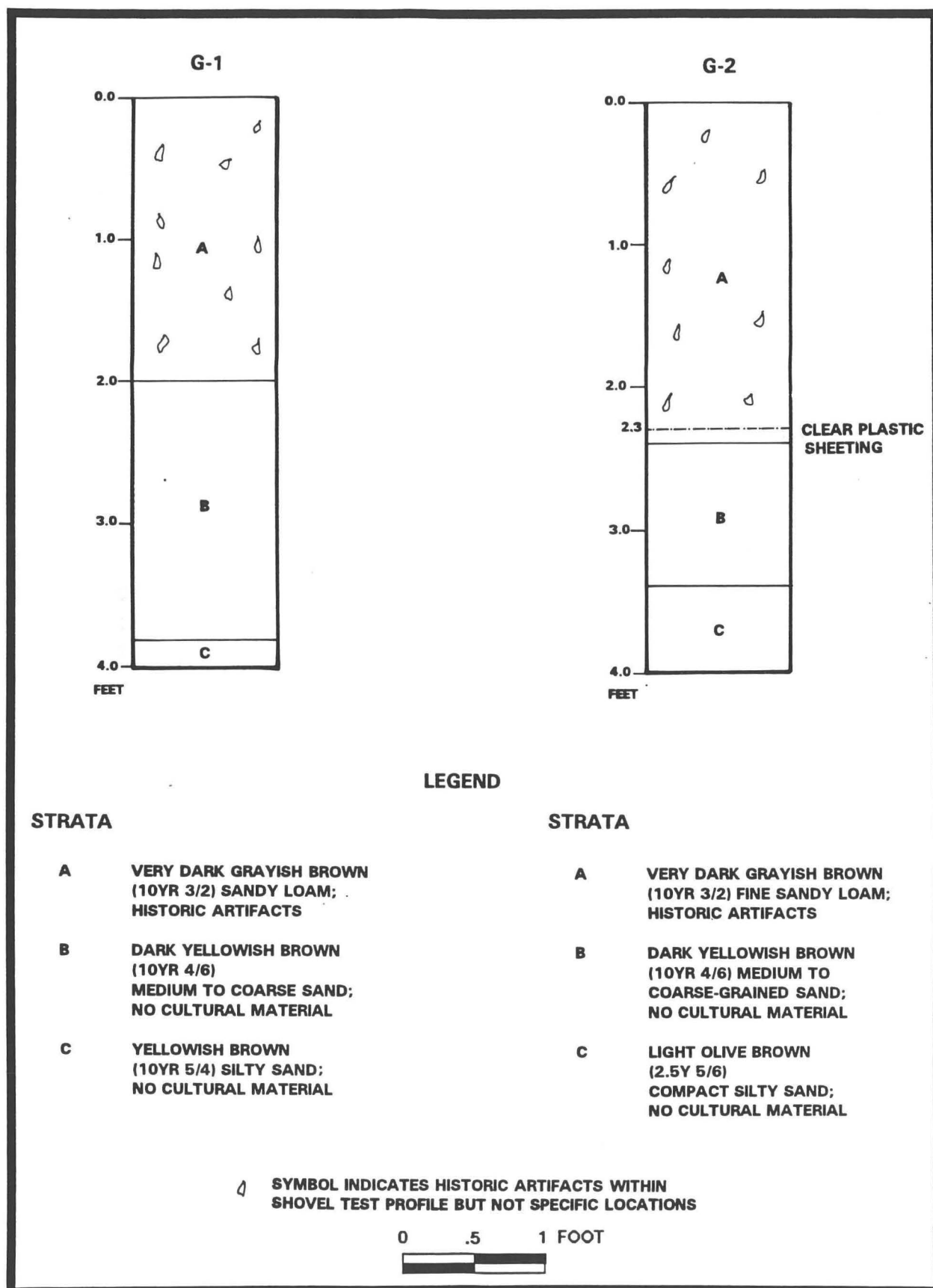


FIGURE 10: Soil Profiles, Shovel Tests G-1 and G-2

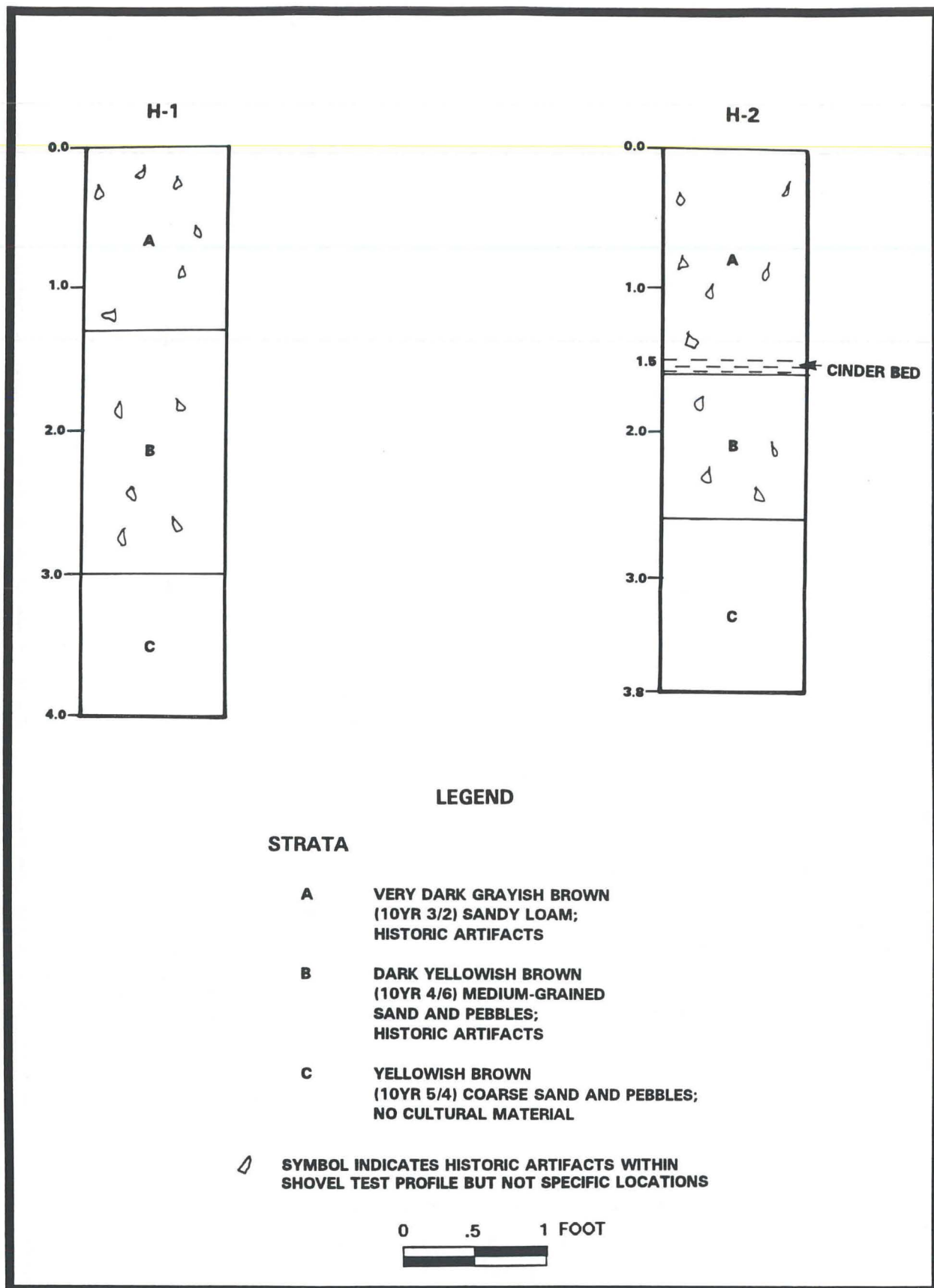


FIGURE 11: Soil Profiles, Shovel Tests H-1 and H-2

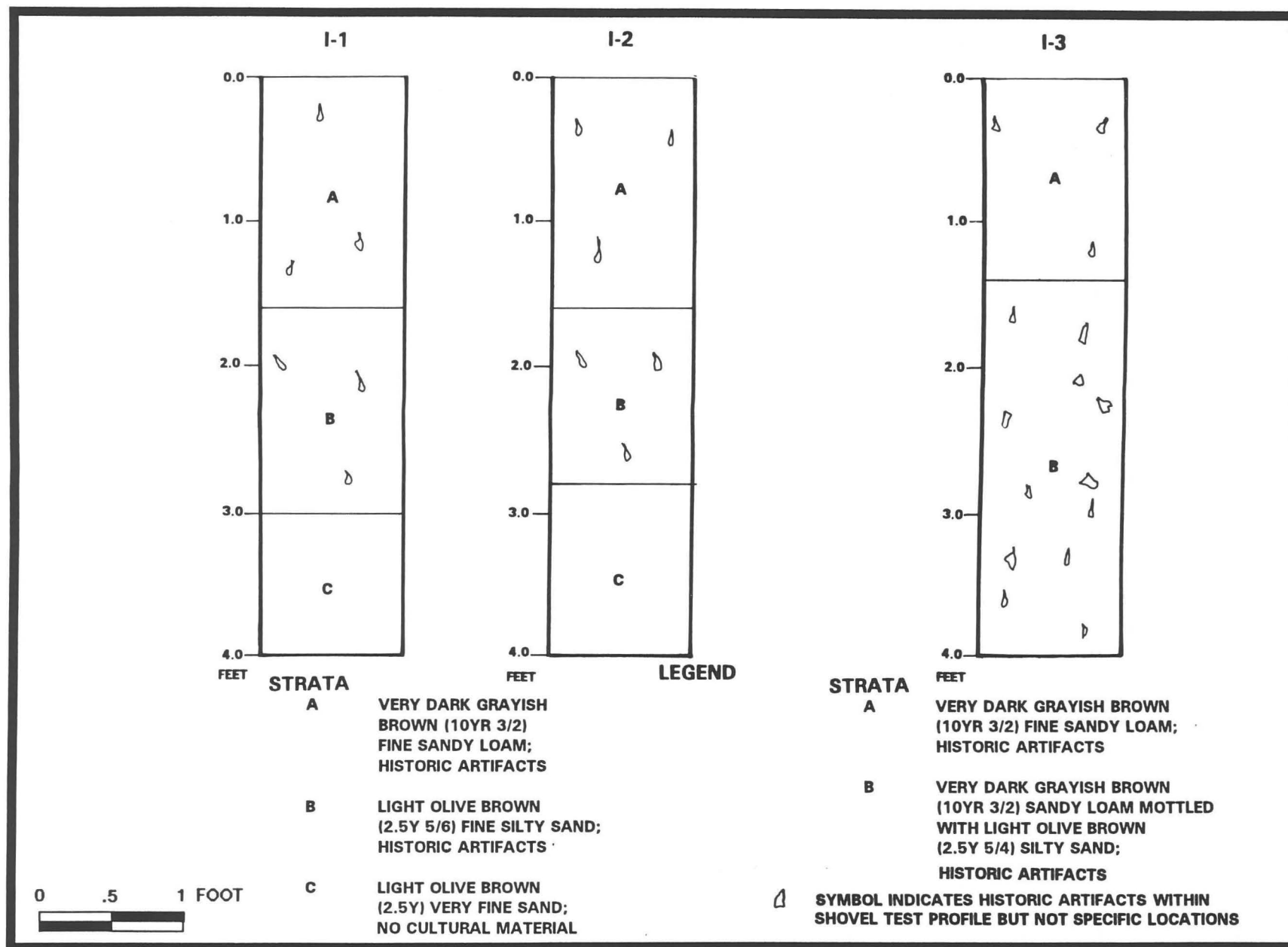


FIGURE 12: Soil Profiles, Shovel Tests I-1, I-2, and I-3

The soil profile in Test I-2 was almost identical to that in Test I-1, except that Stratum C was encountered at a depth of 2.8 feet (see Figure 12). Again, no feature or large object was encountered in this test that would account for the radar echo.

The radar anomaly at Test I-3 was located in the area of a circa 1805 frame house or shed associated with the Crowninshield property. Stratum A in Test I-3 was similar to that revealed in the other excavations behind the Custom House and extended to 1.4 feet below surface. Between 1.4 and 4.0 feet, a fill deposit, designated Stratum B, was present. The fill matrix consisted of loose grayish brown (10YR 3/2) and light olive brown (2.5Y 5/4) silty sand (see Figure 12). Artifacts recovered from Stratum B include butchered bone, nails, and fragments of brick, ceramics, and glass.

In summary, no large or diagnostic artifacts were recovered from any of the distinct radar echoes located by the remote sensing survey behind the Custom House. The depth of the radar anomalies roughly corresponds with the interface between distinct fill strata. It is conceivable that there are buried objects of a size that could have been missed by the horizontal extent of the archeological tests, given the errors that can be introduced in resurveying a survey grid.

V. ARCHEOLOGICAL MONITORING

Archeological monitoring was conducted during geotechnical tests to examine the condition of Derby and Central wharves. The geotechnical testing, which consisted of five soil borings and six test pit excavations, was supervised by TAMS, with Jeff Finitz as Project Manager, Mike Taylor as Soils Engineer, and William Cortell as Geologist. Drillers from Northeast Diamond Drilling, Maine, conducted the borings, and the test pits were excavated by K & B Excavating. The main purpose of the archeological monitoring was to record evidence of historic wharves and other cultural remains.

Soil borings were made by driving a 4-inch diameter casing into the ground followed by drilling to the designated sample depth. A split-spoon coring bit was then driven through the sediment to retrieve two-foot-long samples. Soil samples were taken every 5 feet. A record was kept of the soils encountered in borings. Profiles of test pits were drawn and photographed. Where structural features were encountered, they were drawn in section and plan view and photographed. Boring B-2, located approximately 600 feet south of Derby Street on the west-central side of Derby Wharf, represents a typical soil column (Table 1).

TABLE 1
SOIL PROFILE, BORING B-2

DEPTH	SOIL DESCRIPTION
2-5'	Coarse mixed sand and gravel fill
5-7'	Wet grayish brown sand, mixed fill
10-12'	Coarse sand to fine gravel, with ceramic, glass, and brick fragments
15-17'	Gray silty sand mixed with heavier particles
20-22'	Marine deposits begin. Shell fragments contained in a finer sandy silt
24.5-26.5'	Marine sediment. Pure silt with shell and reed fragments
30-32'	Two peat deposits above Boston Blue glacially pulverized stone and sediment. Peat deposits indicate former terrestrial environment. Separation by Boston Blue reveals Pleistocene interglacial period \pm 12,000 BP.
35-36.75'	Very fine sand to silt. Auger refusal at 36.75 feet, probably on very compact glacial till.

Boring B-1, on the central portion of Central Wharf, was the only boring that encountered timber that may represent a section of the historic wharf (Figure 13). This timber was within an auger sample at a depth of 10.5 to 11.0 feet. Marine sediments were encountered in this boring at 12 feet below the present surface of the wharf, and a transition from marine deposits to Boston Blue pulverized stone was encountered at a depth of 28 feet. Boring B-1 was terminated at 36.6 feet.

Five of the six test pits were monitored, Test Pits 1 and 2 on Central Wharf and Test Pits 4, 5, and 6 on Derby Wharf (see Figure 13). Test Pit 1 was located on the east side of Central Wharf 200 feet south of Derby Street. The location was chosen to examine a section of the wharf that had buckled prominently. The 4-foot-wide test pit encountered a concrete foundation 16.0 feet west of the east edge of the wharf, between 0.8 and 2.4 feet below ground surface. This foundation was 0.9 foot wide and ran north-south. The south end of this foundation wall rested on a perpendicular concrete footing. The concrete features were covered with demolition debris in a sand and gravel fill.

Earlier wharf remains were encountered to the east of the concrete foundation at 2.0 to 3.5 feet below surface (Figure 14; Plate 6). A total of five aligned upright wooden piles were situated 8 feet from the east edge of the wharf. A vertical plank articulated with the west side of three of the wooden piles, and a horizontal cross timber, at a depth of 4.5 feet, ran from the north wall of the trench to the southernmost exposed pile. Ash and cinder deposits surrounding the feature contained artifacts with predominantly nineteenth-century affiliation, including an eyeglass piece and the brass snap of a woman's purse. A single iron tie rod was encountered 5.1 feet below grade, projecting westward into the wharf through the remains of the earlier wharf. This tie rod was anchored to a timber deadman 56 feet from the east edge of Central Wharf. A break in the rod near its east end probably caused the collapse in this section of the wharf.

Test Pit 2, located on Central Wharf 480 feet south of Derby Street, measured 10x8 feet and was excavated to a depth of 8.0 feet below surface. Soils consisted of indiscriminate fills above tie rods that were located 6.0 feet below surface. The tie rods join laterally to a steel I-beam that runs centrally along the axis of the wharf. Excavation was limited to the base of the I-beam. No historic wharf remains were observed in this test pit. Fill soils were predominantly yellowish brown sands that contained some oyster shell, unarticulated planks, cobbles, gravel, and ceramic and glass fragments. One notable artifact found in the fill was a shaped bone implement, probably a weaving tool for cloth or fishing nets. Since the tie rods and I-beam were installed during the 1974 reconstruction of Central Wharf, the soils and historic artifacts above them must have been redeposited.

Test Pit 4 was a 12x12-foot pit excavated on the western side of Derby Wharf, 8 feet east of the gravel path. The soil profile consisted of a series of relatively modern fill strata that extended to a depth of 4 feet below the present surface of the wharf (Figure 15). A utility trench that contained a 4-inch iron pipe was encountered from 2.6 to 3.8 feet below the present wharf

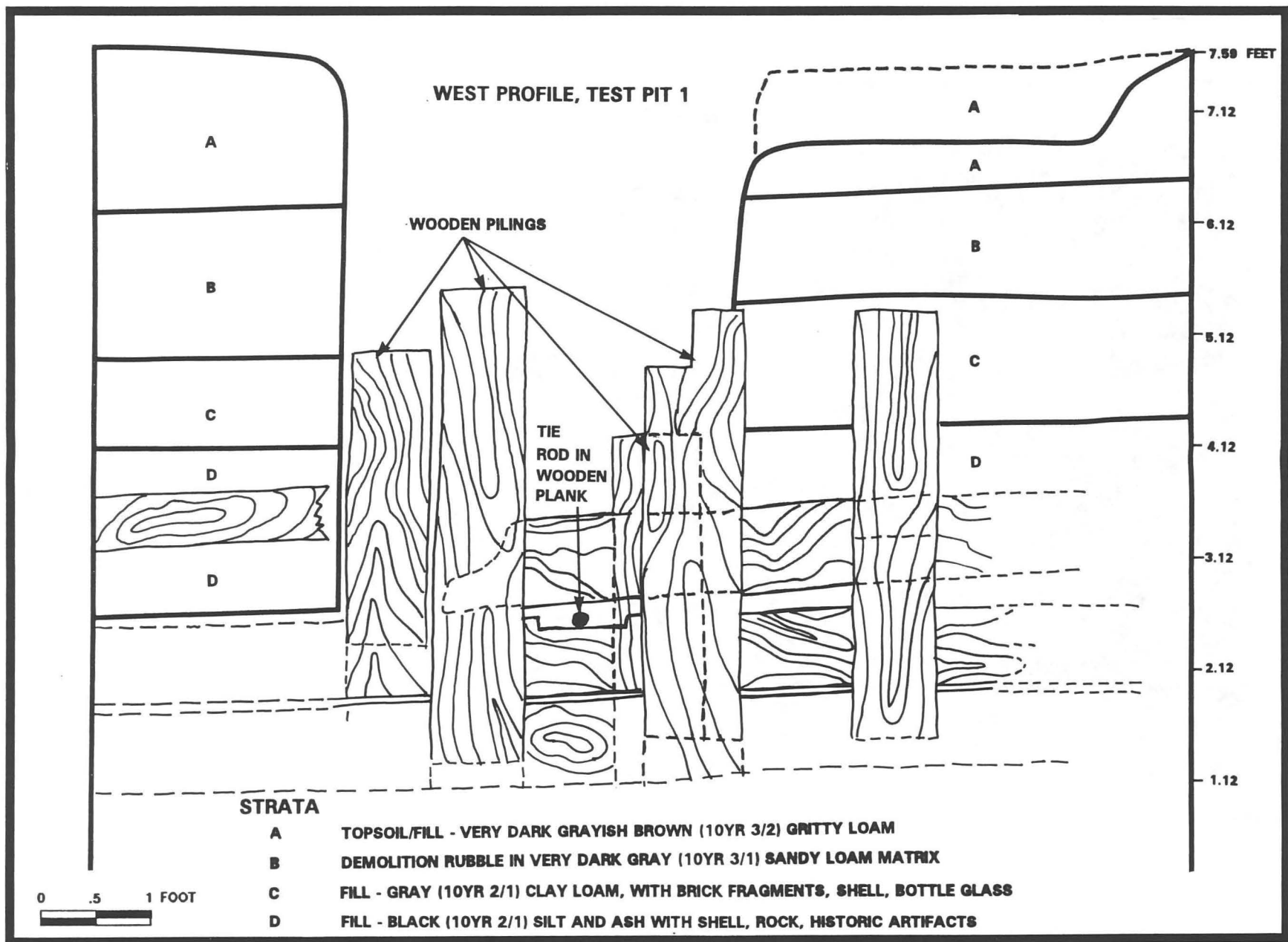


FIGURE 14: Historic Wharf Remnant Exposed in Test Pit 1, Central Wharf



PLATE 6: Historic Wharf Remains Exposed in Test Pit 1, Central Wharf

surface. Below the utility trench and obviously modern fills were a series of coarse sand and gravel fills, some with brick fragments. Several timbers that were exposed within marine deposits at a depth of 7.5 to 8.5 feet are presumably remnants of the historic wharf (see Figure 15; Plate 7).

Test Pit 5, a 10x12-foot excavation near the middle of Derby Wharf, exposed modern fill extending to a depth of 2.5 feet below present surface. The fill between 2.5 and 4.0 feet consisted of coarse sand with quantities of ash, charcoal, and relatively large stones. Cultural materials identified in this fill deposit included thick window pane, wooden debris, sewer pipe, bottle glass, ceramic roofing tile, slag, and ceramics. The fill deposits between 4.0 and 8.0 feet contained considerably less debris. No historic wharf remains were observed in this test pit.

Test Pit 6, located near the eastern stone facing of Derby Wharf, encountered much less debris than the other test pits. Below a 2-foot-deep sterile surface fill, the fill sediment contained cobbles, shell, various historic ceramics, and disarticulated wood. Almost sterile marine sediment was located at a depth of about 3 feet. Dark organic muck, containing shell and historic ceramics, was encountered from 5.0 to 8.0 feet below surface. The marine sediments and muck identified in this test pit probably represent deposits dredged from the channel near the wharf. Descriptions of the 1938 NPS reconstruction of Derby Wharf state that dredge spoils were used as fill between the stone sea walls of the wharf. At a depth of 8.0 feet, near the base of excavations, a disarticulated timber was encountered. A section of this timber was sawn off for analysis and interpretation. Although the surface of the timber was severely damaged, it appeared to have been hewn. Approximately square in cross section, the 30-inch-long section of timber is notched and has a hole, 2.5 inches in diameter, for treenailing (Plate 8). It is presumed that this timber represents a section of the nineteenth-century wharf that had been disturbed during the 1938 reconstruction.

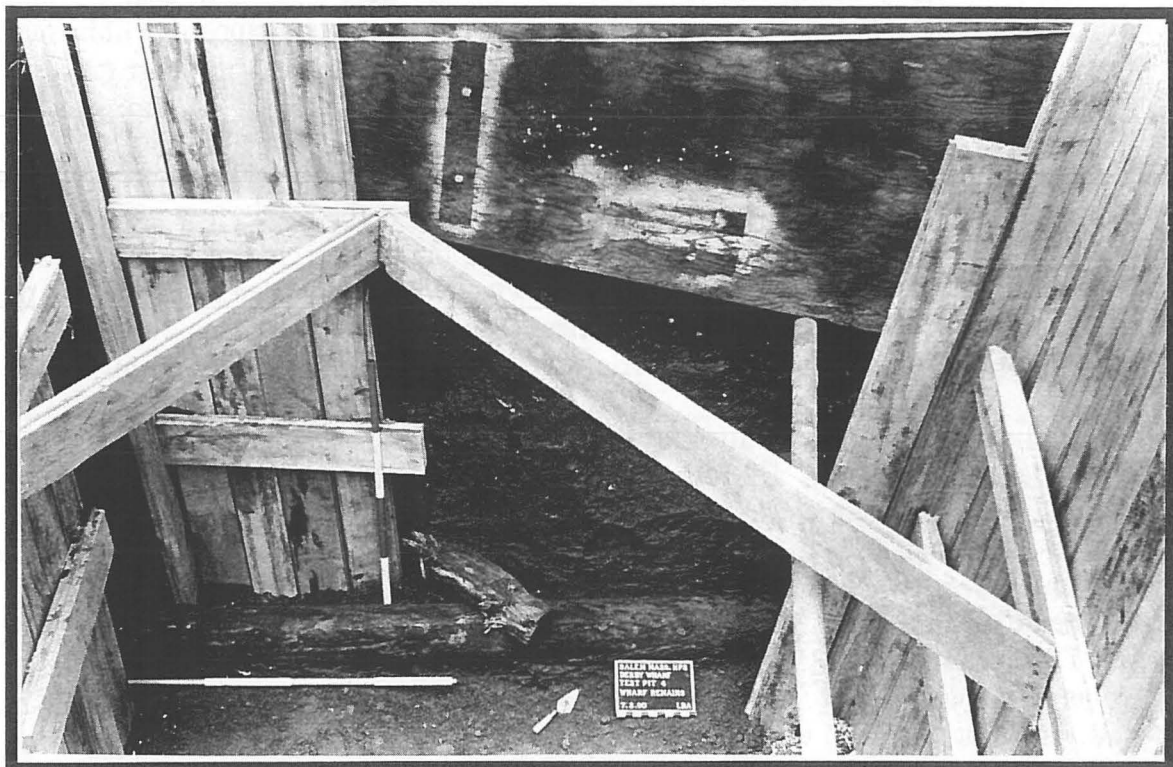


PLATE 7: Historic Wharf Remains Exposed in Test Pit 4, Derby Wharf

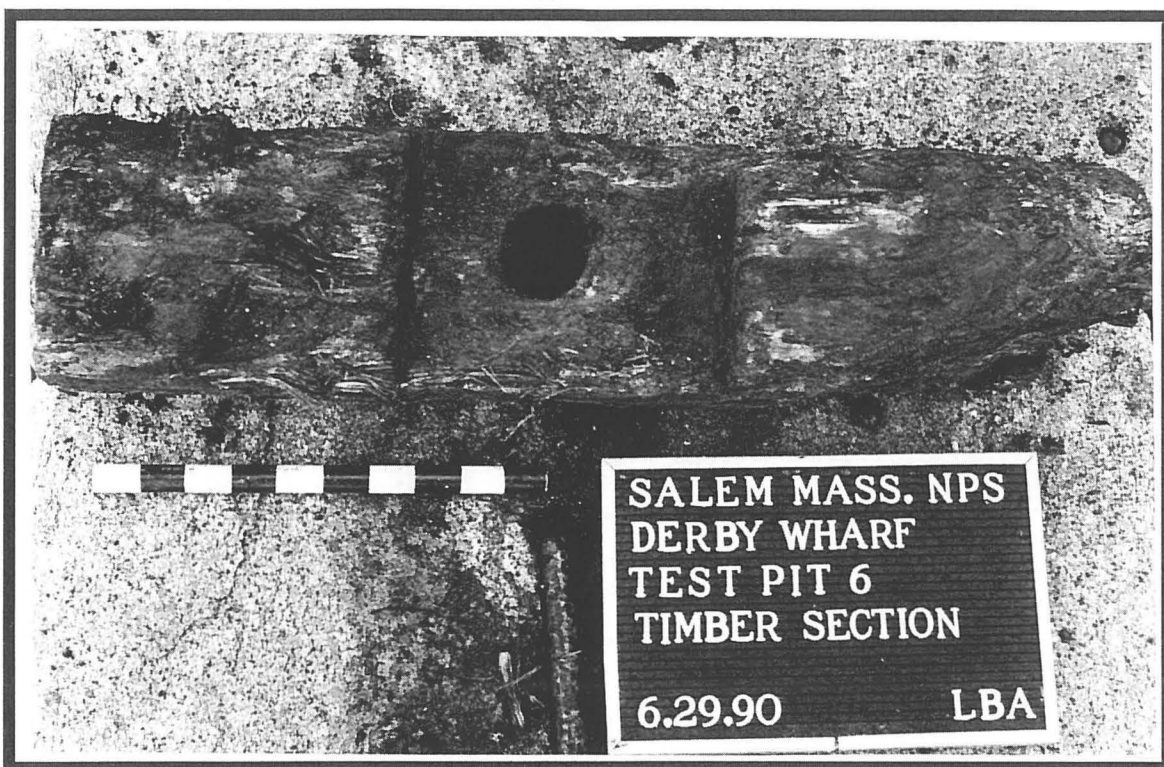


PLATE 8: Section of Timber Join from Derby Wharf

VI. ARTIFACT ANALYSIS

A total of 1,643 artifacts were recovered from the archeological testing and monitoring at Salem Maritime National Historic Site. All artifacts were cleaned and then sorted into major classes, such as ceramics, glass, architectural materials, faunal remains, and prehistoric artifacts. Where possible, dates were assigned to artifacts. Artifact cataloging and tabulation was accomplished with a database system developed by the Cultural Resource Group of LBA that uses R:BASE System V, a relational database package. As required for all NPS collections, artifacts were also cataloged using the Automated National Cataloging System (ANCS), which is programmed in dBASE III Plus. Upon completion of this project, all artifacts, field records, photographs, and ANCS records will be curated at Salem Maritime National Historic Site under the Accession Number SAMA 365.

The ceramic collection was analyzed using a standardized format developed by the LBA Cultural Resource Group. This format is based on the South/Noel Hume typology (South 1977), as modified for use in a computerized system (Louis Berger & Associates 1987; Stehling in Geismar 1983; Stehling and Janowitz 1986). The ceramic tabulation was performed at a Stage 1 level of analysis, which provides the following information: identification of ware types and techniques of surface decoration; dates based on manufacturing techniques and, if present, makers' marks; identification of vessel forms and functions; and descriptions of decorative motifs.

Pipes under analysis were tabulated by morphological type, decorative motif, makers' marks, and use-wear. Sources used include, but were not limited to, Jackson and Price (1974), Noel Hume (1970), and Walker (1977). Stem bore diameters were measured in order to calculate approximate dates of manufacture (Binford 1962).

The glass assemblage was separated into the following functionally distinct categories: bottle, tableware, lighting related, and other. Window glass was analyzed separately with other architectural materials. Descriptive attributes of glass sherds included color, finish type, base type, manufacturing technique, motif, embossment, wear, and maker's mark.

Small finds and architectural materials received a Stage 1 level of analysis using the coding system created by LBA, based on the South/Noel Hume typology (South 1977). Faunal remains were identified by species and element, where possible, and butchering marks were noted. Identifications were made with the aid of a comparative faunal type collection and the use of reference materials, which include Abbott (1968), Brown and Gustafson (1979), Olsen (1964), and Schmid (1972).

A complete catalog of the artifacts recovered from the Salem investigations is presented following Chapter VIII. The variables used in the computer coding process are described at the beginning of the catalog under subheadings for each class of artifacts. A list of the codes with their translations that were used in the analysis is also provided.

Artifacts were not systematically recovered from the monitored test pit excavations. Among the artifacts retrieved, some of the ceramics could be dated from makers' marks. These included three ironstone sherds from Test Pit 6, one dated 1870-1900, another 1894-1929, and the third 1887-1890. The only well-dated artifact from Test Pit 5 was a sherd of Syracuse China ironstone with an insignia that was used from 1920 to 1940.

A total of 430 ceramic sherds were recovered from the project area north of Derby Street. Identified types included whiteware (181 sherds), redware (89), pearlware (49), creamware (32), yellowware (29), red-bodied trailed slipware (2), other earthenware (10), porcelain (17), salt-glazed stoneware (14), delftware (4), and ironstone (3). Among the porcelain were 6 sherds of soft-paste porcelain, 6 sherds of hard-paste porcelain, and 5 sherds of Oriental Export porcelain. Only one of the stoneware sherds was English white salt-glazed, dated 1720-1805. One of the 41 unglazed redware sherds came from an Iberian storage jar.

Mean ceramic dates (MCDs) were calculated for each transect. The earliest MCD, 1815, was derived from Transect I, the three tests behind the Custom House. This supports the assumption that archeological remains in this area should be the least affected by disturbances from late nineteenth-century construction and NPS activities. The next oldest date, 1843, was derived from the two tests in Transect G behind the Narbonne House. The ceramics recovered from testing behind the Hawkes House in Transects D, E, and F had MCDs of 1876, 1873, and 1879, respectively. The MCD from Transect H, located in the Derby House lot, had the most recent date, 1881.

Remains of clay smoking pipes included five fragments from south of Derby Street, one a pipe bowl dated 1820-1880, and the other four pipestem fragments. Two of the pipestems had makers' marks identifying them as being made in Glasgow in 1863-1891 and 1850-1891, respectively. Twelve fragments of pipe bowls and stems were recovered from testing north of Derby Street, and two pipe fragments were collected during monitoring, one a complete bowl marked "TD," which dates to 1820-1880.

A total of 315 fragments of curved glass were recovered representing bottles and tableware, although the majority were identifiable to type. The glass assemblage included two fragments from a case bottle; fragments of wine, liquor, and patent medicine bottles; and at least three tumbler fragments, one with Steigel-type engraving. Four glass fragments had an amethyst tint indicative of glass with a high manganese content that was manufactured between 1880 and 1915.

Small finds and architectural artifacts included window and mirror glass, nails, unidentified metal and hardware, tile fragments, buttons, shoe parts, two china doll fragments, two bone utensil handles, a spoon, a bottle cap, a hinge, a thermometer, a 1982 U.S. penny, a paint can, and various coal, slag, cinder, brick, mortar, tile, rubber, and plastic fragments. Of the 214 nails, 150 were too corroded to identify by type; of the remaining 64, there were 54 machine-cut nails, 8 wire nails, and 2 roofing nails. The relatively low representation of wire nails may reflect that they tend to deteriorate more readily; this type probably accounts for the majority

of unidentified nails. A total of 82 nails (71 percent) were from Transect F; these may represent demolition debris from one of the tenements that were located in the vicinity. Of the 116 window glass fragments, 50 were classified as modern, 45 as broad glass (dated 1820-1926), and 16 as crown glass (dated before 1840). Of the two doll fragments, the one from Test E-2 is a bisque type dated 1870-1930, and the one from Test F-2 is a porcelain doll fragment dated 1890-1930.

Twelve of the 14 shovel test excavated north of Derby Street produced faunal remains, which consisted of bone and shell. Identified species included cow (6 bone fragments), sheep (5), pig (3), oyster, and clam. Five bird bones of unidentified species were also recovered. The majority of the mammal bones could not be speciated but were classified as large (8), medium (31), small (2), and unidentified (3).

VII. SUMMARY AND RECOMMENDATIONS

Interpretations of archeological sensitivity within Salem Maritime National Historic Site were based on a review of previous archeological studies, historical research, and the results of the underwater and terrestrial archeological remote sensing project that were described in this report. In addition to the construction and demolition of structures, repairs to the wharves and maintenance of shipping channels through time have affected the potential for undisturbed archeological deposits.

When the National Park Service acquired Derby Wharf in 1937, the property had deteriorated to the point that an almost complete reconstruction had to be undertaken. The 1938 reconstruction tried to retain the historic appearance of the wharf, but used modern methods. For example, the timber cribbing used in the reconstruction was creosoted, and a concrete pad foundation was placed under most of the masonry bulkheads.

The remote sensing project was conducted with the prospect of locating potential sites for future archeological investigation. The marine remote sensing survey failed to locate areas of archeological sensitivity; only three underwater targets were identified and all were interpreted as modern, including a metal cable and a mooring dock. This supports the assumption that there would be low archeological potential adjacent to the wharves because of the history of channel dredging and wharf reconstruction. However, the survey should not be considered conclusive given the problems with taking accurate readings due to shallow water and the presence of metal in the wharves.

The terrestrial remote sensing survey located several soil anomalies and discontinuities that were investigated through a program of archeological ground truthing. Archeological testing confirmed that a major transition in soil conductivity identified east of Derby Wharf represented a change in fill type that coincides with an expansion of land outward from the former Derby Beach circa 1890. Several radar anomalies were identified north of Derby Street, but subsequent archeological testing was unable to confirm whether any of these represented buried cultural deposits or features. The results of archeological testing suggested that at least some of the soil anomalies north of Derby Street represent disturbances caused by construction, demolition, and landscaping episodes.

Analysis of historic maps and land-use records provided another source of information for the assessment of archeological preservation potential. The rear yard areas of both the Hawkes House and the Derby House formerly contained tenements and garages. Any buildings remaining in this area when the NPS acquired the properties in 1937 were demolished. Cellars were excavated, rubble was removed, and the area was filled, graded, and landscaped. These activities were documented in NPS monthly narrative reports and photographs. An indication of the extent of soil disturbance in this area was revealed during the 1990 survey, when NPS maintenance workers encountered up to 8 feet of "topsoil" while planting a garden behind the

Derby House. The area is therefore considered to have a low potential for intact archeological remains.

The front yard areas of the Derby and Hawkes houses are also considered to have low archeological potential. A series of stores were erected in front of the Hawkes and Derby houses, beginning in the first half of the nineteenth century, and the construction and later removal of these structures would have created considerable ground disturbance. In addition, landscaping in the front yards of both the Derby House and the Hawkes House, including the planting and removal of full-grown trees, would certainly have impacted archeological deposits.

Areas that have not been obviously disturbed by relatively modern activities, for example, unexcavated portions of the Narbonne House and Custom House lots, are considered to have high archeological potential. The rear lot of the Custom House has been relatively undisturbed by the NPS. The Custom House was constructed in 1818-1819 on the location of the 1773 mansion of George Crowninshield, Sr. Former outbuildings in the area behind the Custom House included a stable or chaise house, a frame house, and several outhouses. In addition, a later privy, associated with the Custom House, was located at the northeast corner of the property and would have been in use until 1854, when the City of Salem installed a sewer system. Installation of utilities and landscaping may have caused some limited ground disturbance to earlier archeological deposits but would not have impacted deep features such as privies. There is a high probability that excavations in the rear yard of the Custom House may reveal intact archeological remains, including domestic features and deposits related to the Crowninshield occupation.

South of Derby Street, a series of wharf lots were developed in the eighteenth century and early nineteenth century, and the area east of Derby Wharf may have been used as a shipbuilding yard. With changes in the use of the waterfront in the last quarter of the nineteenth century until park acquisition in 1937, the area directly opposite the Derby and Hawkes houses became increasingly congested with tenements, wagon sheds, garages, shops, and other commercial and industrial buildings. Around 1893, the Boston and Northern Railway Company constructed a carbarn in a recently filled area known formerly as Derby Beach. By 1911, the carbarn had been demolished and the vacant tract was used as a dumping area (John Sousa, personal communication 1990). After acquisition by the National Park Service in 1937, all of the remaining structures south of Derby Street were removed, and the area was graded and filled to create a vista into the harbor from Derby Street. A parking lot built in this area was removed in 1978, when parking was relocated to Central Wharf. The area south of Derby Street is considered to have low archeological potential, with the exception of Hatch's Wharf and the former location of Elias Hasket Derby's counting house, or Upper Store, across from the Custom House. Although evidence of late eighteenth- and early nineteenth-century shipbuilding and repair activities would be of extreme interest, not only is it impossible to determine the precise locations of these industries, but cycles of construction, demolition, excavation, and grading in this area have probably obliterated archeological evidence of these activities.

Since the eighteenth century, the shoreline in this area has been extended through the construction of wharves. The history of wharf building, however, has not only included enlargement, but also continuous deterioration, modification, and rebuilding. As the archeological testing at Central Wharf suggested, very little of the historic fabric of the wharves is expected to have survived. This is especially true of Central Wharf and Derby Wharf, which were both substantially rebuilt between 1937 and 1940. Fill used in the reconstruction of these wharves included dredged material from the river bottom and soil removed from the rear yard areas of the structures north of Derby Street. Therefore, not only has the historic fabric of the wharves been altered, but the research value of many of the artifacts that would be found in association with the wharves has also been compromised.

Archeological monitoring of geotechnical tests conducted on Derby and Central wharves supports the assessment that the integrity of these two properties has been greatly compromised. Some sections of historic cribbing may survive at depths greater than 6 feet below present grade, but these are very isolated and their location is unpredictable. Testing for these remains can only be accomplished using heavy machinery, and the depth of potential resources would require fairly large exposures with attention to shoring and dewatering. It is possible that monitoring of deep excavations undertaken during future rehabilitation of the wharves may provide opportunities to recover significant archeological data.

Of the three wharves, Hatch's Wharf may retain the greatest architectural and archeological integrity. As Snell (1974b:67) observed, Hatch's Wharf was remodeled to its current form in 1853 and was not subject to the extensive reworking of the 1937-1940 period or subsequently. Therefore, Hatch's Wharf may contain within it some earlier wharf construction features, dated circa 1805, 1795, or perhaps earlier.

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ARTIFACT CATALOG

DESCRIPTION OF DATABASE CODES

CERAMICS

Type/Subtype. The ceramic Type/Subtype is entered as a five-character alphanumeric code that consists of three letters and two digits. The first letter is always C, for Ceramic. The second letter refers to general ware groups: E, for Coarse Earthenwares; R, for Refined Earthenwares; S, for Coarse Stonewares; F, for Refined Stonewares; P, for Porcelain; and O, for Other and Unidentified. The third letter refers to specific ware types: e.g., R, for Redware; W, for Whiteware; and L, for Gray Stoneware. The numbers following the letter code refer to particular decorative treatments or named types: e.g., CRW50 - Whiteware with Blue Transfer-Printed Decoration. Type/Subtype may have specific dates or may be descriptive and undated. Sources for the dates include, but are not limited to, Cameron (1986), Denker and Denker (1985), Gates and Ormerod (1982), Howard (1984), Ketchum (1983), Miller (1980), Noel Hume (1970), South (1977), and Wetherbee (1980).

Count. The number of sherds in each category was recorded in this field.

Begin Date/End Date. The begin and end dates were automatically assigned by the computer to each dated Type/Subtype. When more precise dates could be determined from makers' marks or particular decorations or forms, or when a generally undated type could be dated, this field was filled in on the coding sheet and the more specific dates were entered into the computer.

Form (VAR 5). Form indicates the shape and possible function of the complete vessel as represented by the sherds present. General categories, such as Body - General, are used for sherds whose small size or ambiguous characteristics make determination of form problematical. Definitions of forms are based, for the most part, on Beaudry et al. (1983), Greer (1981), Ketchum (1983), and Towner (1963).

Decoration/Motif (VAR 4). This field includes descriptions of decorative motifs (e.g., General Floral), pattern names (e.g., Willow-like), and general descriptions (e.g., Blue).

Maker's Mark (VAR 1). The Maker's Mark field is used to record the actual marks seen on sherds. The dates listed in the Utilized Codes were the broadest manufacturing ranges for the pertinent potters or firms; when a particular mark indicated a narrower date range, the more precise date was used.

Comments. The Comments code is numerical and refers to information not covered in the other fields. A common entry in this field is 19, which translates as "See Written Comments."

Notes. The Notes field allows for individual written comments applicable to a specific entry. In general, notes were used to describe particulars of decorative motifs or unusual characteristics, or to record bibliographic references used for identification or dating.

CURVED GLASS

Type/Subtype. Tabulation of the glass proceeded according to artifact codes determined by function (Type) and form (Subtype). Codes are alphanumeric and consist of three letters and a two-digit number. The first letter, G, standard for all codes, denotes the artifact as Glass. The second letter denotes the general functional category in which the artifact falls: B-Bottle, T-Table, and O-Other glass. The third letter denotes specific function: e.g., A, for Alcohol, under the general Bottle heading, and U, for Unidentified, under the general Table and Other headings. The two-digit number completes the identification and denotes vessel form: e.g., GBA02 - Liquor Bottle, GTU06 - Unidentified Table Glass/Engraved-Stiegel Type, and GOU01 - Total Unidentified Glass.

All artifacts, identified as to specific function and form, were coded as such regardless of the degree of fragmentation. The specific vessel part(s) encountered are inferred by the coding of the appropriate field(s), e.g., Base or Finish. Whole and fragmented bases, finishes, rims, and body sherds for which specific functional forms could not be identified were accommodated under Unidentified and Miscellaneous categories. Non-form-specific vessels and sherds were coded as above, when appropriate, or under expanded codes such as Wine/Liquor Bottle.

Count. The number of sherds in each category was recorded in this field.

Begin Date/End Date. Dating of the glass assemblage proceeded according to established diagnostic criteria. These criteria, utilized either singly or in combination, can include various technological aspects of glass manufacture such as finish treatments and mold markings, datable bottle embossments and makers' marks, and various stylistic elements associated with certain tablewares. In instances where no end date of manufacture was available, just the beginning date or terminus post quem (TPQ) for the artifact was recorded. Sources used for dating include Fike (1987), Jones and Sullivan (1985), and Munsey (1970).

Color (VAR 6). In general, color was assigned to glass sherds purely for descriptive purposes and is broadly defined for this collection. All shades of olive green, for example, were coded under Light Olive/Dark Olive Green. The exception was Amethyst Tinted (or Solarized), which is a datable color.

Finish (VAR 8). Finish types in the collection fell exclusively within the One-Part (100s) and Two-Part (200s) categories. Coded descriptions relate, for the most part, to the shape (in side profile) of the element(s) comprising each finish. In some cases, common names, e.g., "Prescription" and "Screw," have been used. Fragmented finishes with two elements but unassignable to a specific type were coded Unidentified/Two-Part. Finishes with an unknown number of elements and therefore unassignable to a specific type were coded Unidentified/Number of Parts Unknown.

Base (VAR 7). Base types in the collection refer to the marks on the basal surfaces of both bottles and tablewares. The lack of any markings on several bottle bases indicated that a "snap

case" device had been used to hold the bottles in place while their finishes were formed. Machine-made basal markings were also encountered. Base fragments which could not be associated with a diagnostic piece were coded Unidentified.

Manufacturing Technique (VAR 5). Manufacturing technique refers to the distinctive mold seams and markings found on the bodies (and sometimes on the basal surfaces and over the finishes and rims) of completed glassware. Mold-Blown (Mold Type Indeterminate) was used to describe vessels for which a specific mold type could not be discerned. The code Unidentified was used to denote a totally unidentifiable manufacturing technique.

Motif (VAR 4). The Motif codes assigned to the collection refer to the general decorative patterns evidenced. The code Unidentified was used to denote partial patterns which could not be identified fully.

Wear (VAR 3). The code Melted/Burned was used to denote artifacts showing evidence of having been subjected to fire.

Embossment (VAR 11). No complete lettered embossments were encountered in this collection. Incomplete embossments, which could not be identified in their entirety, were coded Unidentified/Partial with either "illegible," or the legible portions, written out in the Notes field (see below).

Comments. Numerical Comment codes were utilized to convey additional descriptive or explanatory data not covered in the standard coded fields. The coded information recorded in this field for glass can include, for example, Straight-Sided, and Possibly Lamp Related.

Notes. For the most part, notes were entered into the glass database to record descriptive information for sherds, to record partial embossments, and to document dating references.

TOBACCO PIPES

Type/Subtype. The Type/Subtype code for pipes is alphanumeric and consists of three letters and two digits. The first two letters are always PT, indicating "Pipes - Tobacco." The third letter identifies the artifact as a stem (S) or a general white-clay bowl. The Subtype further defines the artifact. A numerical code is used to indicate specific bowl shapes and date ranges, when known (e.g., "Noel Hume Type 23, 1820-1880"), or stem characteristics (e.g., "measurable with tall thin heel").

Count. The number of pipe fragments was recorded in this field.

Begin Date/End Date. Dates for pipes were generated automatically by the computer based on their Type/Subtype. When a manufacturing range for a specific pipe could be determined, based on its mark or decoration, the date was coded and recorded. Sources used include, but are not limited to, Jackson and Price (1974), Noel Hume (1970), and Walker (1977).

Maker's Mark/Decoration (VAR 1). This field was used to describe the makers' marks and/or decoration on bowls and stems.

Use (VAR 7). This modifier describes the types of evidence of use found on the pipes.

Bore Diameter (VAR 9). The bore diameters of stems were measured in sixty-fourths of an inch, using a set of drill bits ranging from 4/64 to 9/64. This measurement was recorded simply as the numerator (e.g., 4/64-inch bores were recorded as 4).

Comments. A standard set of numerical Comments codes was used for noting additional data not accommodated in other fields of information.

Notes. This is a write-in field used to record additional information, references employed in identification, or tentative dates.

SMALL FINDS AND ARCHITECTURAL REMAINS

Type/Subtype. The Type/Subtype code is alphanumeric and consists of three letters and two digits. The first letter is always S, for Small Finds/Architectural; the second letter denotes Group (e.g., A, for Architecture); and the third letter denotes a class within a group (e.g., F, for Fasteners). The numerical Subtype code denotes the specific artifact type: e.g., SA F03 - Machine-cut Nail.

Count. All artifacts were counted except for heating by-products.

Weight. Weights recorded for brick, mortar, window glass, and heating by-products.

Begin Date/End Date. Dates for certain artifacts were generated automatically by the computer based on their Type/Subtype. References used for identifying and dating small finds and architectural remains included Albert and Adams (1970), Bridgewater and Kurtz (1967), Coleman et al. (1986), Friedberg and Friedberg (1988), Lamm et al. (1970), Lavitt (1983), Luscomb (1970), Nelson (1968), Noel Hume (1970), and Pepper (1971).

Material (VAR 3). The material composition of each artifact was determined and recorded.

Characteristic (VAR 5). A modifier that best described the form or manufacturing technique of each artifact was entered in this field. If no diagnostic attribute was evident, the artifact was simply described as being whole or fragmented.

Decoration (VAR 4). Any decorative characteristic not related to the form or manufacture of an artifact was described if present.

Color (VAR 6). Color was recorded for a bead.

Comments. A standard set of numerical Comments codes was used for noting additional data not accommodated in other fields of information. For example, the comment 99 translates as "Burned."

Notes. The Notes field allows for additional, written comments.

FAUNAL CODES

Type/Subtype. The Type/Subtype code is alphanumeric and consists of three letters and two digits. The first letter is always Z, which indicates Faunal; the second letter denotes the category (e.g., M, for Mammal); and the third letter distinguishes groups within a class (e.g., D, for Domesticated). The numerical Subtype code specifies species: e.g., ZMD70 - Cow.

Count. All bone was counted, while only whole shell or valves were counted for shell.

Weight. All shell material was weighed.

Element (VAR 5). This field indicates what bone, or element, was being quantified, or if shell was present.

Part Present (VAR 6). This field indicates whether the specimen was whole, fragmentary, or a butchered section. In the case of shell, it indicates if the specimen was whole, a valve, or fragmentary.

Age/Epiphyseal Fusion (VAR 4). General age indicators, such as unfused epiphysis, were described in this field.

Butchering (VAR 3). Cut marks were described in terms of the type of tool used to produce the cut of meat, as well as table cut marks.

Cuts (VAR 1). This field was used to describe a meat cut.

Burning (VAR 7). This field was used to record any modifications to bone or shell caused by heat.

Weathering (VAR 9). This field notes the presence of weathering.

Comments. A standard set of numerical Comments codes was used for noting additional data not accommodated in other fields of information. For example, the comment 69 translates as "Mend."

Notes. The Notes field allows for additional, written comments.

TRANSLATIONS OF UTILIZED CODES

CERAMICS TYPOLOGY

Beg. Date - End Date

EARTHENWARES

Red Bodied

CER01	Unglazed	Undated
CER30	Iberian Storage Jars	Undated
CER51	Streaked Body Brown/Black Glaze	Undated
CER60	Black Glaze	Undated
CER61	Dark Brown Glaze	Undated
CER62	Brown Glaze	Undated
CER63	Light Brown Glaze	Undated
CER64	Olive Glaze	Undated
CER98	Redware - Other	Undated

Red Bodied Slipware

CES02	Trailed - General	1670 - 1850
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Buff/White Bodied

CEH98	Other	Undated
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Delftware

CRD01	Body Fragments Without Glaze	1625 - 1800
CRD11	White Glaze w/Blue Dec.- General	1640 - 1800
CRD98	Other Delftware	Undated

Creamware

CRC02	Plain	1762 - 1820
CRC20	Other Embossed Rim	1762 - 1820
CRC62	Simple Bands	1765 - 1820

Pearlware

CRP02	Plain	1775 - 1840
CRP10	Shell Edge - Blue	1775 - 1840
CRP35	Underglaze Blue Handpainted	1775 - 1820
CRP36	Underglaze Polychrome Handpainted	1795 - 1825
CRP37	Underglaze Brown Handpainted	1795 - 1820
CRP50	Transfer Printed - Blue, with Stipple	1800 - 1840
CRP51	Transfer Printed - "Old Blue"	1815 - 1835
CRP60	Dipped - General	1790 - 1890

		Beg. Date - End Date
<u>Whiteware</u>		
CRW02	Plain	1820 - Present
CRW05	Plain Paneled	1830 - 1870
CRW10	Shell Edged - Blue	1820 - 1900
CRW20	Other Embossed Rims	1820 - Present
CRW25	Embossed Body Sherds	1820 - Present
CRW36	Polychrome Underglaze Handpainted Early Style	1820 - 1860
CRW50	Transfer Printed - Blue, General	1820 - 1915
CRW52	Transfer Printed - Brown	1820 - 1915
CRW53	Transfer Printed - Flowing Colors	1835 - 1910
CRW56	Transfer Printed - Late Style	1855 - 1915
CRW57	Transfer Printed - Black	1820 - 1915
CRW60	Dipped - General	1820 - 1900
CRW71	Cut Stamps	1830 - 1900
CRW80	Decal - Overglaze	1880 - Present
CRW90	Other 20th Century	1900 - Present
CRW98	Other Whiteware	1820 - Present
<u>Ironstone</u>		
CRI02	Plain	1840 - Present
CRI70	Hotel China	1860 - Present
CRI81	Decal - Underglaze	1897 - Present
<u>Yellowware</u>		
CRY02	Plain	1827 - 1940
CRY60	Dipped - General	1827 - 1940
CRY64	Dipped - Simple Bands	1827 - 1940
CRY75	Miscellaneous Brown Glaze	1850 - 1940
CRY76	Rockingham Type Glaze	1812 - 1920
<u>Other Refined Earthenwares</u>		
CRK52	Thin Red Body - Clear Lead Glaze	Undated
<u>Other Earthenwares</u>		
COZ05	Other Unidentifiable	Undated
STONEWARES		
<u>White Salt Glazed</u>		
CFT02	Plain	1720 - 1805

Beg. Date - End Date

Gray Stonewares

CSL02	Plain - Gray Salt Glazed	Undated
CSL11	Gray Salt Glazed with Albany Type Slip	1800 - 1940
CSL30	Gray Salt Glazed with Bristol Type Slip	1835 - Present
CSL72	Buff Salt Glazed with Albany Type Slip	1800 - 1940

Brown Stonewares

CSB11	Brown Salt Glazed with Albany Type Slip	1800 - 1940
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PORCELAIN

Soft Paste Porcelain

CPF02	Plain	Other Dates
CPF20	Overglaze Handpainted	Other Dates
CPF30	Embossed	Other Dates

Hard Paste Porcelain - Non Oriental

CPJ02	Plain	Other Dates
CPJ90	Colored Glazes	Other Dates

Oriental Porcelain

CPP10	Underglaze Blue - Miscel. Undated	Undated
CPP11	Underglaze Blue - Canton, Nanking	1790 - 1840

CERAMICS MODIFIERS

MAKERS MARK'S - VARIABLE 1

19	See Written Comments	
121	Mellor & Co. w/ Lion & Unicorn & Shield	1894 - 1929
130	Glasgow Pottery, Trenton	1863 - 1901 (Barber 1904:50-52)
551	Onondaga Pottery Co./O.P.Co.	1871 - 1966 (Barber 1904:81; Lechner 1988:146)
682	Wedgwood & Co.	1860 - Present (Godden 1964:655)
925	Miscellaneous Lion & Unicorn Mark	
999	Unidentified Incomplete	

MOTIF/PATTERN - VARIABLE 4

019	See Written Comments
041	Browns
046	Green
050	Blue
100	General Floral
102	Small-Scale Floral
103	Small-Scale Floral with Brown Line Atop Rim
104	Small-Scale Floral with Band
125	Star/Asterisk
140	Landscape - General
301	Willow Like
563	Finger Painted - "Worms"
628	Brown Slipped, Interior and Exterior
680	Purple/Taupe/Brown Interior Slip
750	Glazed Interior Only
752	Glazed Both Surfaces
753	Glazed Interior, Exterior Spalled
754	Glazed Exterior, Interior Spalled
758	Unglazed Exterior, Interior Spalled
803	Combed/Feathered
899	Incised
909	Octagon with Diamond on Rim
965	Wheat Variant
970	Paneled General
982	Shell Edge-Scalloped Rim, Straight Lines
987	Shell Edge-Scalloped; Rim, Curved Lines-General
999	Insufficient Evidence to Determine Pattern

FORM - VARIABLE 5

General

010	Miscellaneous Hollowware Body
011	Miscellaneous Hollowware Rim
012	Miscellaneous Hollowware Base
014	Body-General
015	Rim-General
016	Base-General

Flatwares

043	Plate 9"
045	Plate 7"
050	Plate-Unidentified Diameter
075	Miscellaneous Tableware (service or consumption)

FORM - VARIABLE 5 (continued)

Teawares

095	London Shape, Handle Unknown
099	Teacup-General
101	Teacup with Handle
104	Small Saucer/Bowl (6" or less)
107	Saucer with Well
114	Wine Cup
119	Miscellaneous Teawares

Other

126	Bottle
130	Miscellaneous Drinking Vessel

Serving Pieces

205	Dish - Diameter Unknown
224	Deep Bowl-Diameter Unknown
226	Shallow Bowl/Dish 4"-6"
250	Egg Cup

Food Preparation and Storage

303	Jar-Wide Mouth/Straight-Sided
306	Jar-Small Mouth/Curved-Sided

Sanitary, Household Etc.

520	Flower Pot
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Other

700	Small Hollowware-Body
701	Small Hollowware-Rim
705	Medium Hollowware-Body
707	Medium Hollowware-Base
710	Large Hollowware-Body
712	Large Hollowware-Base

COMMENTS

14	Encrusted with Rust
60	Named as a Vessel but not Totally Mendable
69	Mendable
91	Charred
98	Organically Stained
99	Burned

GLASS TYPOLOGY

GLASS-BOTTLE

Alcohols-bottle

GBA02 Liquor Bottle
GBA03 Wine/liquor Bottle
GBA19 Case Bottle

Other Beverages

GBZ01 Beverage/General

Pharmaceutical/Apothecary-General

GBP01 Pharmaceutical Bottle/Jar

Pharmaceutical/Apothecary-Medicines

GBP06 Patent/Proprietary Medicine/Drug

Miscellaneous-Bottle

GBX05 Jar/General

Unidentified

GBU01 Unidentified Bottle Glass/General

GLASS-TABLE

Unidentified

GTU01 Unidentified Table Glass/General
GTU06 Unidentified Table Glass/Engraved-Stiegel Type

GLASS-LIGHTING

Lamp-General

GLL21 Lamp Base-Undecorated

GLASS-OTHER

General-Other

GOG05 Thermometer

Unidentified-Other

GOU01 Total Unidentified Glass/General

GLASS MODIFIERS

WEAR - VARIABLE 3

9 Melted/Burned

MOTIF/PATTERN - VARIABLE 4

1 Panel
22 Diamond
9999 Unidentified

MOLD TYPE/MANUFACTURING TECHNIQUE - VARIABLE 5

1 Mold-blown (Mold Type Indeterminate)
5 Cup Bottom Mold
17 Pressed
24 Automatic Bottle Machine-made
99 Unidentified

COLOR - VARIABLE 6

1 Clear (or White)
2 Milkglass (or Opaque White)
3 Emerald Green/Teal
5 Light Olive/Dark Olive Green
7 Brown/Amber/Honey
8 Olive/Amber
9 Aquamarine (All Shades)
11 Amethyst Tint (or Solarized)
12 Cobalt
99 N/A (Obscured Due to Devitrification)

BASE - VARIABLE 7

7 Snap Case
8 Machine Cut-off Scar (ABM)
12 Molded
99 Unidentified

FINISHES - VARIABLE 8

One-part: Lip Only (Varied Diameters)

100	Flared (or Everted)
120	Straight (or Plain)
128	Straight, Fire Polished
140	Screw, Continuous or Interrupted
145	Prescription
147	Patent/Extract
153	Short, Rounded Collar
156	Flattened Lip with Rounded Edge Tapered into Neck

Two-part: Lip and String Rim

299	Unidentified/Two-part
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Unidentified

999	Unidentified/Partial (Number of Parts Unknown)
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LETTERED EMBOSSEMENTS - VARIABLE 11

9999	Unidentified Partial
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COMMENTS

34	Straight-sided
35	Possibly Lamp-related

PIPES TYPOLOGY

Beg. Date - End Date

STEMS

PTS01	Measurable
PTS11	Measurable with Tall Thin Heel
PTS98	Unmeasurable Fragment

BOWLS

PTE63	Hume 23	1820 - 1880
PTE94	Unidentified Shape with Spur	Undated
PTE95	Unidentified Shape Decorated Bowl	Undated
PTE98	Unidentified Shape	Undated

PIPES MODIFIERS

MAKER'S MARK/DECORATION - VARIABLE 1

0019	See Written Comments
1600	Miscellaneous TD mark

USE - VARIABLE 7

1	Light
2	Heavy
3	Possibly Trimmed For Use
5	Burned
7	Bite Marks on Mouthpiece
8	No Apparent Use
10	Indeterminate

BORE DIAMETER - VARIABLE 9

1	Unmeasurable or Not Present (on Bowls)
4	4/64"
5	5/64"
6	6/64"

COMMENTS

19	See Written Comments
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SMALL FINDS/ARCHITECTURAL TYPOLOGY

Beg. Date - End Date

ARCHITECTURAL

Building Materials

SAB01	Brick
SAB04	Building Block
SAB20	Mortar

Fasteners

SAF03	Machine-cut Nail	1830 -
SAF06	Wire Nail	1850 -
SAF07	Unidentified Nail	
SAF09	Roofing Nail	
SAF17	Railroad Spike	
SAF23	Staple	

Glass

SAG01	Modern Window Glass	
SAG08	Crown Glass	- 1840
SAG11	Broad Glass	1820 - 1926

Hardware

SAH13	Hinge
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Plumbing/Heating

SAP01	Salt-Glazed Stoneware Pipe	1810 -
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Tile and Floor Covering

SAT01	Tile
-------	------

CLOTHING

Fasteners

SCF54	Plain Small China Button	1850 -
SCF75	Bone Button	

Shoes

SCZ98	Miscellaneous Shoe Parts
-------	--------------------------

KITCHEN

Beg. Date - End Date

Containers, Utensils, Sundries

SDA17	Utensil - General
SDA21	Spoon
SDA44	Bottle Cap

UNIDENTIFIED

Other

SOS01	Unidentified Metal
SOS03	Melted Glass
SOS06	Unidentified Wood
SOS10	Rock/Stone
SOS12	Rubber
SOS13	Plastic

1839 -

PERSONAL

Coins

SPC05	U.S. Penny
-------	------------

Personal Items

SPP40	Purse/Wallet
SPP98	Personal Other

FURNISHINGS

Miscellaneous Furnishing Pieces

SUM20	Mirror Glass
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ACTIVITIES

Heating By-products

SXA01	Coal
SXA02	Charcoal
SXA03	Charred Wood
SXA04	Cinder
SXA05	Slag

Household/Domestic Items

SXD16	Identifiable Can
-------	------------------

ACTIVITIES (continued)

Beg. Date - End Date

Hardware (Non-Architectural)

SXH98 Miscellaneous Hardware

Recreation and Toys

SXR28 Porcelain Doll (Molded)

1850 - 1930

SXR29 Bisque Doll (Slip-Cast)

1870 - 1930

SMALL FINDS/ARCHITECTURAL MODIFIERS

MAKERS MARKS - VARIABLE 1

999 Unidentified Maker's Mark

MATERIALS - VARIABLE 3

001 Ceramic

002 Glass

003 Stone

006 Wood

007 Leather

009 Bone

013 Rubber

1839 -

014 Plastic

031 Slag

035 Cinder

036 Charcoal

042 Ferrous Metal

043 Copper

044 Copper Alloy

046 Brass

082 Glass and Metal

093 Metal and Non-Metal

095 Plastic and Glass

101 Sand Temper

107 Coal

110 Slate

111 Shale

MATERIALS - VARIABLE 3 (continued)

Beg. Date - End Date

160	Porcelain
161	Stoneware
162	Earthenware

DECORATION - VARIABLE 4

091	Open Floral
-----	-------------

CHARACTERISTICS - VARIABLE 5

001	Whole
002	Portion/Fragment
035	Handle (All types)
051	Cut
058	Stamped
074	Carved - Manufactured not Decorative
417	Head (nail)
505	Lincoln Head
575	Molded
701	Four-Way Sew-Through

1909 - Present

COLOR - VARIABLE 6

10	Clear
11	Aqua
12	Green

COMMENTS

69	Mendable
----	----------

FAUNAL TYPOLOGY

SPECIES

ZBZ01	Unidentified Bird	
ZMD35	Sheep	<i>Ovis aries</i>
ZMD60	Pig	<i>Sus scrofa</i>
ZMD70	Cow	<i>Bos taurus</i>
ZMZ01	Unidentified Mammal	
ZMZ02	Small Mammal	
ZMZ04	Medium Mammal	
ZMZ05	Large Mammal	
ZXP01	Oyster/Clam	
ZXP10	Oyster	<i>Crassostrea virginica</i>
ZXP25	Clam	<i>Veneridae</i>

FAUNAL MODIFIERS

CUTS - VARIABLE 1

01 Steakbone

BUTCHERING - VARIABLE 3

01 Sawed
03 Cut Mark(s) on Body
08 Chopped
09 Cut

AGE/EPIPHYSIAL FUSION - VARIABLE 4

15 Unfused

ELEMENTS - VARIABLE 5

016 Tooth
030 Vertebra
032 Axis
034 Lumbar Vertebra
038 Rib

ELEMENTS - VARIABLE 5 (Continued)

050	Scapula
089	Pelvis
100	Femur
101	Tibia
102	Fibula
106	Tibiotarsus
112	Calcaneus
120	Longbone
700	Shell
999	Unidentified

BONE PART PRESENT - VARIABLE 6

01	Whole
02	Fragment
03	Section
05	Shaft
07	Distal Fragment
08	Proximal Section
09	Distal Section
11	Distal Epiphysis
50	Valve

BURNING - VARIABLE 7

04	Calcined
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WEATHERING - VARIABLE 9

01	Presence
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PATTERN ANALYSIS

GROUP

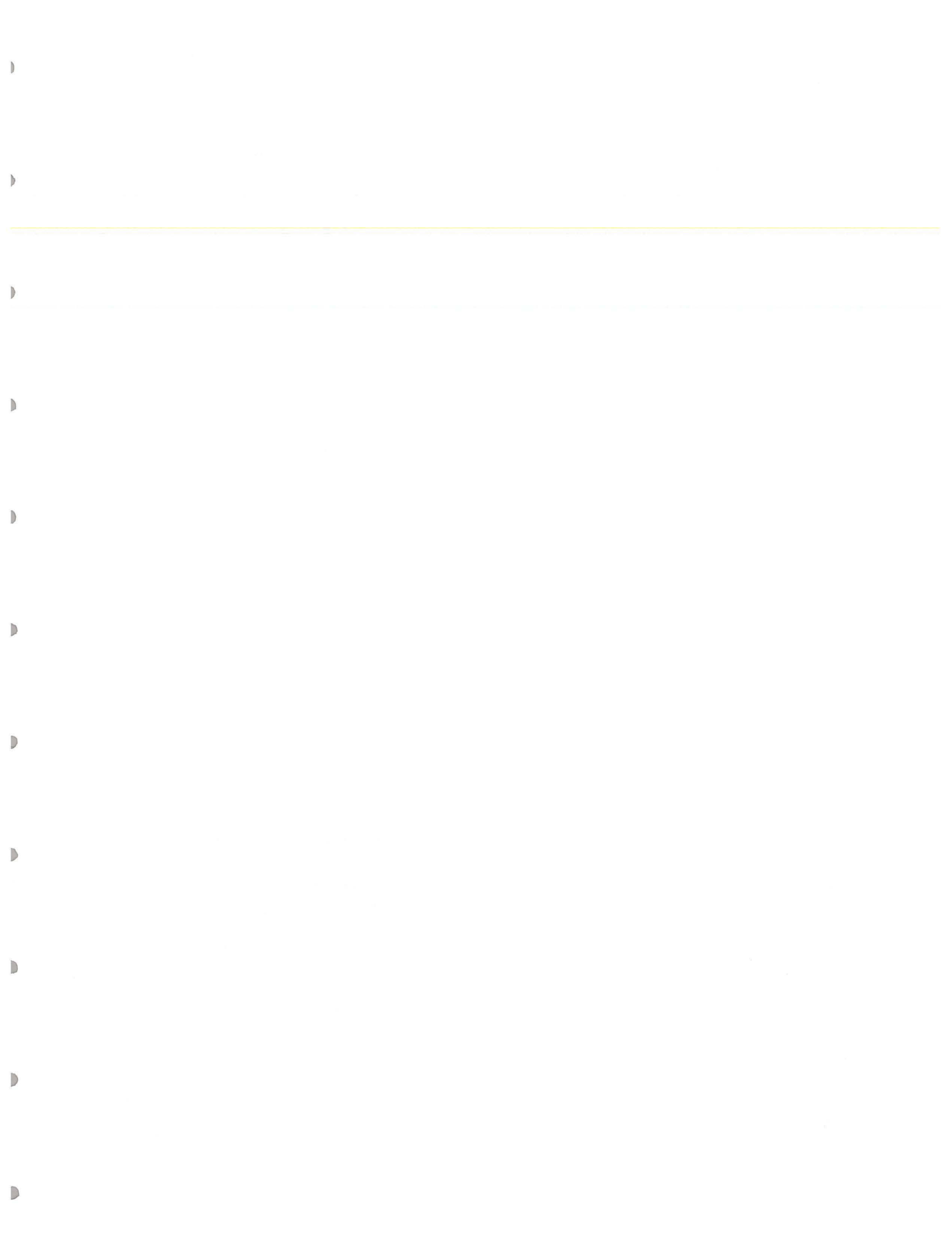
1	Kitchen
2	Architecture
3	Furnishings
5	Clothing
6	Personal
7	Tobacco Pipes
8	Activities
11	Faunal

CLASS

01	Ceramics
02	Bottles
03	Tumblers/Wine Glasses
04	Kitchenware (Other utensils, bowls, pots, etc.)
05	Miscellaneous Glassware
06	Tableware (Flatware-spoons, forks, knives, etc.)
10	Kitchen-Other
11	Window Glass/Caming/Etc.
12	Nails, Spikes, Tacks, Etc., and Misc. Construction Hardware
13	Door Parts
15	Plumbing/Toilet/Sink Fixtures
16	Misc. Building Materials/Floor Covering/Roofing Materials
21	Lighting Related
25	Furniture-Other
31	Clothing Fasteners
34	Shoes
40	Coins
44	Pharmaceutical/Medicine
50	Personal-Other
51	White Clay Pipes
56	Household Related
59	Toys
63	Heating Related
90	Activities-Other
97	Faunal/Floral Domestic/Exploited
99	Faunal/Floral Other

FUNCTION

0	Not Assigned
1	Teawares
2	Tablewares
4	Food Storage
8	Miscellaneous
12	Bottles
21	Wine/Liquor
24	Miscellaneous Beverage
25	Culinary/Condiment
27	Pharmaceutical
28	Miscellaneous Bottle-Other
31	Miscellaneous Tableware
32	Lighting Related
99	Unidentifiable



SALEM MARITIME NATIONAL HISTORIC SITE

Report Date: 05/18/95

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Salem Maritime National Historic Site

ANCS#	CAT#	TKSCT	STP	OTHER	UNIT	STR	TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAR1	VAR3	VAR4	VAR5	VAR6	VAR7	VAR8	VAR9	VAR11	PATN	FUNCT	COMMENTS	TRANSLATION	NOTE
17882	1	A	S200W040	-	-	C	PTS 1	1	-	-	-	-	-	-	-	-	-	-	6	-	751	-	-	Pipe Stems - Measurable	-
17879	1	A	S200W040	-	-	C	PTS 1	1	-	1850	1891	19	-	-	-	-	-	-	5	-	751	-	-	Pipe Stems - Measurable	MARKED "78" ON THE STEM; PROBABLY WHITE OF GLASGOW.
17880	2	A	S210W040	-	-	C	CRW 2	1	-	1815	1900	-	-	-	250	-	4	-	-	-	101	2	99	Whiteware - Plain	PEDESTAL BASE IS MISSING.
17881	3	A	S230W040	-	-	B	CR181	12	-	1900	1950	-	-	-	75	-	4	-	-	-	101	2	60	Ironstone Decal - Underglaze	PLATTER OR VERY SHALLOW DISH; EMBOSSED DESIGN W/ GILDING; FORMAL FLOKAL SCROLL AND FLOWERS IN BASKET DESIGN.
17883	3	A	S230W040	-	-	B	PTE63	1	-	1820	1880	1600	-	-	-	-	-	-	4	-	751	-	19	Pipe Bowls - Noel Hume 23	"TD" FACES SMOKER; TALL MARKOW HELL W/ AN "I" OR A "1" ON THE LEFT SIDE.
17886	5	C	S110W240	-	-	AB	GEP 6	1	-	1890	-	-	-	-	5	12	7	153	-	-	644	27	-	PATENT/PROPRIETARY MEDICINE/DRUG	INTACT; EMBOSSED "BROMO/CAFFEINE"; BEGDATE AS PER FIXE 1987:155.
17887	5	C	S110W240	-	-	AB	PTS 1	1	-	1863	1891	-	-	-	-	-	7	-	5	-	751	-	-	Pipe Stems - Measurable	IMPRESSED "GLAS.../SON", POSSIBLY DAVIDSON, GLASGOW.
17909	15	D	01	-	-	A	CPJ 2	2	-	-	-	-	-	-	14	-	-	-	-	-	101	99	-	Hard Paste Porcelain - Plain	-
17910	15	D	01	-	-	A	CRW 2	5	-	1820	1985	-	-	-	14	-	-	-	-	-	101	99	-	Whiteware - Plain	-
17911	15	D	01	-	-	A	CRW71	2	-	1830	1900	-	-	100	224	-	1	-	-	-	101	2	-	Whiteware - Cut Stamps	DARK GREEN LEAVES, MAUVE FLOWERS.
17912	15	D	01	-	-	A	G8A 3	1	-	-	-	-	-	-	99	5	-	-	-	-	102	21	-	WINE/LIQUOR BOTTLE	-
17913	15	D	01	-	-	A	G8U 1	1	-	-	-	-	-	-	1	1	-	-	-	9999	102	28	34	UNIDENTIFIED BOTTLE/GENERAL	ILLEGIBLE EMBOSSEMENT.
17914	15	D	01	-	-	A	G8U 1	1	-	-	-	-	-	-	99	1	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
17915	15	D	01	-	-	A	PTS11	1	-	-	-	-	-	-	-	-	2	-	5	-	751	-	-	Pipe Stems - Measurable with Tall Thin Heel	-
17916	15	D	01	-	-	A	SAF 9	1	-	-	-	-	42	-	417	-	-	-	-	-	212	-	-	Roofing Nail	-
17917	15	D	01	-	-	A	SAG 1	1	0.001	-	-	-	2	-	2	10	-	-	-	-	211	-	-	Modern Window Glass	-
17918	15	D	01	-	-	A	SAG11	2	0.003	1820	1926	-	2	-	2	11	-	-	-	-	211	-	-	Broad Glass	-
17919	15	D	01	-	-	A	SOS 1	1	-	-	-	-	42	-	2	-	-	-	-	-	-	-	-	Unidentified Metal	-

AMCS#	CAT#	TRCSCT	STP	OTHER	UNIT	STR TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAK1	VAK3	VAK4	VAK5	VAK6	VAK7	VAK8	VAK9	VAK11	PATN	FUNCT	COMNTS	TRANSLATION	NOTE
17920	15	D	01	-	-	A SXA 1	1	0.001	-	-	-	107	-	2	-	-	-	-	-	863	-	-	Coal	-
17921	15	D	01	-	-	A SXA 5	1	0.011	-	-	-	31	-	2	-	-	-	-	-	863	-	-	Slag	-
17922	16	D	01	-	-	B CR1 2	1	-	1840	1985	-	-	-	14	-	-	-	-	-	101	99	-	Ironstone - Plain	-
17923	16	D	01	-	-	B CRW 2	1	-	1820	1985	-	-	-	14	-	-	-	-	-	101	99	-	Whiteware - Plain	-
17924	16	D	01	-	-	B CRWS0	1	-	1820	1915	-	-	999	50	-	-	-	-	-	101	2	-	Whiteware - Transfer Printed - Blue, General	FRAGMENT.
17925	16	D	01	-	-	B CRWS6	2	-	1855	1915	-	-	19	75	-	-	-	-	-	101	2	-	Whiteware - Transfer Printed - Late Style	RIM & BODY SHERD, MEDIUM BROWN FLOKAL TRANSFER PRINT; YELLOW LINE AROUND RIM AND WHAT APPEARS TO BE YELLOW SPONGING.
17926	16	D	01	-	-	B GBU 1	1	-	-	-	-	-	-	1	1	-	-	-	9999	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	EMBOSSED "...LE" AND "...D".
17927	16	D	01	-	-	B GBU 1	1	-	-	-	-	-	99	9	-	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
17928	16	D	01	-	-	B GDU 1	1	-	-	-	-	-	17	1	-	120	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	GEOMETRIC MOTIF.
17929	16	D	01	-	-	B GDU 1	5	-	-	-	-	-	99	1	-	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
17930	16	D	01	-	-	B GTU 1	1	-	-	-	-	9999	1	1	99	-	-	-	-	105	31	-	UNIDENTIFIED TABLEWARE/GENERAL	POSSIBLE TUMBLER
17931	16	D	01	-	-	B SAB 1	1	0.005	-	-	-	1	-	2	-	-	-	-	-	216	-	-	Brick	-
17932	16	D	01	-	-	B SAB20	6	0.012	-	-	-	101	-	2	-	-	-	-	-	216	-	-	Mortar	-
17933	16	D	01	-	-	B SAF 3	1	-	1830	-	-	42	-	2	-	-	-	-	-	212	-	-	Machine Cut Nail	-
17934	16	D	01	-	-	B SAF 7	5	-	-	-	-	42	-	2	-	-	-	-	-	212	-	-	Unidentified Nail	-
17935	16	D	01	-	-	B SXA 4	1	0.014	-	-	-	35	-	2	-	-	-	-	-	863	-	-	Cinder	-
17936	16	D	01	-	-	B SXA 5	1	0.001	-	-	-	31	-	2	-	-	-	-	-	863	-	-	Slag	-
17937	16	D	01	-	-	B SXD16	1	-	-	-	-	93	-	2	-	-	-	-	-	856	-	-	Identifiable Can	PART OF CRUSHED PAINT CAN WITH BLUE PAINT RESIDUE.
17938	16	D	01	-	-	B SXH98	2	-	-	-	-	42	-	2	-	-	-	-	-	890	-	-	Miscellaneous Hardware	PIECE OF THICK PLATE METAL.
17940	17	D	02	-	-	A CER 1	3	-	-	-	-	-	-	14	-	-	-	-	-	101	99	-	Redware - Unglazed	-
17939	17	D	02	-	-	A CER 1	2	-	-	-	-	-	-	11	-	-	-	-	-	101	99	-	Redware - Unglazed	-
17941	17	D	02	-	-	A CO2 5	1	-	-	-	-	-	-	14	-	-	-	-	-	101	99	-	Earthenware - Other Unidentifiable	BODY ONLY.
17942	17	D	02	-	-	A CFF 2	1	-	-	-	-	-	-	12	-	-	-	-	-	101	99	-	Soft Paste Porcelain - Plain	PEDESTAL BASE SHERD.
17943	17	D	02	-	-	A CPJ90	2	-	-	-	-	-	46	10	-	-	-	-	-	101	99	69	Hard Paste Porcelain - Colored Glazes	-

AMCS#	CAT#	TR SCT	STP	OTHER	UNIT	STR TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAR1	VAR3	VAR4	VAR5	VAR6	VAR7	VAR8	VAR9	VAR11	PATN	FUNCT	COMMTS	TRANSLATION	NOTE
17944	17	D	02	-	-	A CRP 2	2	-	1775	1840	-	-	-	14	-	-	-	-	-	101	99	-	Pearlware - Plain	-
17945	17	D	02	-	-	A CRP10	2	-	1795	1840	-	-	982	50	-	-	-	-	-	101	2	69	Pearlware - Shell Edge - Blue	RIM FRAGMENTS.
17946	17	D	02	-	-	A CRP50	3	-	1800	1850	-	-	100	50	-	1	-	-	-	101	2	69	Pearlware - Transfer Printed - Blue, with Stipple	FINELY-MADE, LATE
17948	17	D	02	-	-	A CRW 2	3	-	1820	1985	-	-	-	14	-	-	-	-	-	101	99	-	Whiteware - Plain	-
17947	17	D	02	-	-	A CRW 2	1	-	1820	1985	-	-	-	14	-	-	-	-	-	101	99	99	Whiteware - Plain	-
17949	17	D	02	-	-	A CRW50	1	-	1820	1915	-	-	999	14	-	-	-	-	-	101	99	-	Whiteware - Transfer Printed - Blue, General	FRAGMENT
17950	17	D	02	-	-	A CRY 2	1	-	1827	1940	-	-	-	14	-	-	-	-	-	101	99	-	Yellowware - Plain	-
17951	17	D	02	-	-	A CRY60	1	-	1827	1940	-	-	41	10	-	-	-	-	-	101	99	-	Yellowware - Dipped - General	-
17952	17	D	02	-	-	A GRA 3	3	-	-	-	-	-	-	99	5	-	-	-	-	102	21	-	WINE/LIQUOR BOTTLE	(3) VESSEL REPRESENTED
17953	17	D	02	-	-	A GBU 1	3	-	-	-	-	-	-	99	9	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
17954	17	D	02	-	-	A GOU 1	4	-	-	-	-	-	-	99	1	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
17955	17	D	02	-	-	A PTS98	1	-	-	-	-	-	-	-	-	1	-	1	-	751	-	-	Pipe Stems - Unmeasurable Fragment	-
17956	17	D	02	-	-	A SAB 1	7	0.053	-	-	-	-	1	2	-	-	-	-	-	216	-	-	Brick	-
17957	17	D	02	-	-	A SAB20	3	0.014	-	-	-	-	101	2	-	-	-	-	-	216	-	-	Mortar	-
17958	17	D	02	-	-	A SAF 7	8	-	-	-	-	-	42	2	-	-	-	-	-	212	-	-	Unidentified Mail	-
17959	17	D	02	-	-	A SAG 8	2	0.007	-	1840	-	-	2	2	12	-	-	-	-	211	-	-	Crown Glass	-
17960	17	D	02	-	-	A SAG11	5	0.002	1820	1926	-	-	2	2	11	-	-	-	-	211	-	-	Broad Glass	-
17961	17	D	02	-	-	A SAT 1	2	-	-	-	-	-	162	2	-	-	-	-	-	216	-	-	Tile	-
17962	17	D	02	-	-	A SCF54	1	-	1850	-	-	-	160	701	-	-	-	-	-	531	-	-	Small China Plain Button	-
17963	17	D	02	-	-	A SOS 1	2	-	-	-	-	-	42	2	-	-	-	-	-	-	-	-	Unidentified Metal	-
17964	17	D	02	-	-	A SOS10	1	-	-	-	-	-	110	2	-	-	-	-	-	-	-	-	Rock/Stone	-
17965	17	D	02	-	-	A SPC 5	1	-	1982	-	-	-	43	505	-	-	-	-	-	640	-	-	U.S. Penny	-
17966	17	D	02	-	-	A SXA 1	5	0.018	-	-	-	-	107	2	-	-	-	-	-	863	-	-	Coal	-
17967	17	D	02	-	-	A SXA 4	5	0.005	-	-	-	-	35	2	-	-	-	-	-	863	-	-	Cinder	-
17968	17	D	02	-	-	A SXA 5	1	0.001	-	-	-	-	31	2	-	-	-	-	-	863	-	-	Slag	-
17969	18	D	03	-	-	A CER 1	1	-	-	-	-	-	-	14	-	-	-	-	-	101	99	-	Kedware - Unglazed	-
17970	18	D	03	-	-	A CRC 2	1	-	1762	1820	-	-	-	14	-	-	-	-	-	101	99	-	Creamware - Plain	-

AMCS#	CAT#	TRCST	STP	OTHER	UNIT	STR	TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAR1	VAR3	VAR4	VAR5	VAR6	VAR7	VAR8	VAR9	VAR11	PATN	FUNCT	COMNTS	TRANSLATION	NOTE
17972	18	D	03	-	-	A	CKW 2	1	-	1820	1985	-	-	-	16	-	-	-	-	-	101	99	-	Whiteware - Plain	-
17971	18	D	03	-	-	A	CKW 2	2	-	1810	1860	-	-	-	14	-	-	-	-	-	101	99	-	Whiteware - Plain	EARLY.
17973	18	D	03	-	-	A	GSA 3	1	-	-	-	-	-	-	99	5	-	-	-	-	102	21	-	WINE/LIQUOR BOTTLE	-
17975	18	D	03	-	-	A	GBU 1	1	-	-	-	-	-	-	1	1	-	-	-	9999	102	28	34	UNIDENTIFIED BOTTLE/GENERAL	EMBOSSED "... B GA
17974	18	D	03	-	-	A	GBU 1	1	-	-	-	-	-	1	1	9	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
17976	18	D	03	-	-	A	GDU 1	4	-	-	-	-	-	-	99	1	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
17977	18	D	03	-	-	A	SAB 1	1	0.003	-	-	-	1	-	2	-	-	-	-	-	216	-	-	Brick	-
17978	18	D	03	-	-	A	SAF 3	2	-	1830	-	-	42	-	417	-	-	-	-	-	212	-	-	Machine Cut Nail	-
17979	18	D	03	-	-	A	SAG11	2	0.001	1820	1926	-	2	-	2	11	-	-	-	-	211	-	-	Broad Glass	-
17980	18	D	03	-	-	A	SAH13	1	-	-	-	-	42	-	2	-	-	-	-	-	213	-	-	Hinge	-
17981	18	D	03	-	-	A	SXA 1	1	0.001	-	-	-	107	-	2	-	-	-	-	-	863	-	-	Coal	-
17982	18	D	03	-	-	A	SXA 2	1	0.001	-	-	-	36	-	2	-	-	-	-	-	863	-	-	Charcoal	-
17983	18	D	03	-	-	A	SXA 4	1	0.001	-	-	-	35	-	2	-	-	-	-	-	863	-	-	Cinder	-
17984	19	D	03	-	-	B	CEK 1	3	-	-	-	-	-	-	14	-	-	-	-	-	101	99	-	Redware - Unglazed	-
17985	19	D	03	-	-	B	CPF20	1	-	-	-	-	-	100	119	-	-	-	-	-	101	1	-	Soft Paste Porcelain - Overglaze Handpainted	BASE SHEKD, KATHEK THICK BODY.
17986	19	D	03	-	-	B	CPJ 2	1	-	-	-	-	-	-	15	-	-	-	-	-	101	99	-	Hard Paste Porcelain - Plain	-
17987	19	D	03	-	-	B	CRC62	3	-	1765	1820	-	-	19	50	-	1	-	-	-	101	2	-	Creamware - Simple Bands	OVERGLAZE RED BROWN LINE ATOP BRINK BETWEEN RIM & CAVETTO.
17988	19	D	03	-	-	B	CRF 2	1	-	1775	1840	-	-	-	14	-	-	-	-	-	101	99	-	Pearlware - Plain	-
17992	19	D	03	-	-	B	CKW 2	2	-	1820	1985	-	-	-	224	-	5	-	-	-	101	2	69	Whiteware - Plain	-
17995	19	D	03	-	-	B	CKW 2	3	-	1820	1985	-	-	-	104	-	5	-	-	-	101	1	69	Whiteware - Plain	-
17989	19	D	03	-	-	B	CKW 2	1	-	1820	1985	-	-	-	45	-	4	-	-	-	101	2	-	Whiteware - Plain	-
17993	19	D	03	-	-	B	CKW 2	12	-	1820	1985	-	-	-	14	-	-	-	-	-	101	99	-	Whiteware - Plain	-
17994	19	D	03	-	-	B	CKW 2	1	-	1820	1985	-	-	-	50	-	-	-	-	-	101	2	-	Whiteware - Plain	RIM SHEKD FROM SMALL VESSEL.
17997	19	D	03	-	-	B	CKW 2	1	-	1820	1985	-	-	-	99	-	-	-	-	-	101	1	-	Whiteware - Plain	BASE.
17990	19	D	03	-	-	B	CKW 2	2	-	1820	1985	-	-	-	99	-	-	-	-	-	101	1	-	Whiteware - Plain	2 DIFFERENT VESSELS, RIMS.

ANCS#	DATE	TRSC#	STP	OTHER	UNIT	STR	TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAK1	VAK3	VAK4	VAK5	VAK6	VAK7	VAK8	VAK9	VAK11	PATN	FUNCT	COMNTS	TRANSLATION	NOTE
17991	19	D	03	-	-	B	CRW 2	1	-	1820	1985	-	-	-	50	-	4	-	-	-	101	2	-	Whiteware - Plain	-
17996	19	D	03	-	-	B	CRW 2	3	-	1863	1905	130	-	-	43	-	4	-	-	-	101	2	69	Whiteware - Plain	MARK IS "STONE CHINA ..." W/ LION & UNICORN W/ MONOGRAM "GP" - JOHN MOSES (& SON ?), TRENTON GLASGOW POTTERY.
17998	19	D	03	-	-	B	CRW20	4	-	1850	1900	-	-	965	50	-	4	-	-	-	101	2	69	Whiteware - Other Embossed Rims	SMALL VESSEL, DEEPLY FLUTED BODY.
17999	19	D	03	-	-	B	CRW36	1	-	1820	1860	-	-	999	10	-	-	-	-	-	101	99	-	Whiteware - Polychrome Underglaze Handpainted - Early Style	-
18001	19	D	03	-	-	B	CRW50	1	-	1820	1915	-	-	100	10	-	-	-	-	-	101	99	-	Whiteware - Transfer Printed - Blue, General	-
18000	19	D	03	-	-	B	CRW50	1	-	1820	1915	-	-	999	50	-	1	-	-	-	101	2	-	Whiteware - Transfer Printed - Blue, General	-
18002	19	D	03	-	-	B	CRW53	1	-	1835	1910	-	-	999	14	-	-	-	-	-	101	99	-	Whiteware - Transfer Printed - Flowing Colors	-
18003	19	D	03	-	-	B	CRV60	1	-	1827	1940	-	-	19	10	-	-	-	-	-	101	99	-	Yellowware - Dipped - General	WHITE LINES, BLUE BAND
18004	19	D	03	-	-	B	GBA 2	2	-	-	-	-	-	-	1	7	99	-	-	-	102	21	-	LIQUOR BOTTLE	LIGHT AMBER.
18005	19	D	03	-	-	B	GBF 1	1	-	-	-	-	-	-	1	9	-	145	-	-	644	27	-	PHARMACEUTICAL BOTTLE/JAR	-
18006	19	D	03	-	-	B	GBF 6	3	-	1878	-	-	-	-	1	9	-	-	-	9999	644	27	34	PATENT/PROPRIETARY MEDICINE/DRUG	EMBOSSED "THE CUTICURA SYSTEM/OF CURING/CONSTITUTIONAL HUMORS - ..."; BEGDATE AS PER FILE 1987:96.
15496	19	D	03	-	-	B	GBU 1	2	-	1880	1915	-	-	-	1	11	-	-	-	9999	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	(2) VESSELS REPRESENTED; (1) SHERD WITH EMBOSSED STAR; (1) SHERD WITH ILLEGIBLE EMBOSSEMENT.
18009	19	D	03	-	-	B	GBU 1	3	-	-	-	-	-	-	99	7	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	BROWN.
18008	19	D	03	-	-	B	GBU 1	4	-	-	-	-	-	-	99	9	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18007	19	D	03	-	-	B	GBU 1	1	-	-	-	-	-	-	1	1	-	-	-	9999	102	28	34	UNIDENTIFIED BOTTLE/GENERAL	EMBOSSED (6)-POINTED STAR.
18018	19	D	03	-	-	B	GOU 1	1	-	-	-	-	-	-	99	1	-	100	-	-	110	0	35	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18011	19	D	03	-	-	B	GOU 1	2	-	-	-	-	-	-	99	2	-	-	-	-	110	0	35	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18010	19	D	03	-	-	B	GOU 1	3	-	1880	1915	-	-	-	99	11	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	DATED MUNSEY 1970:55.
18015	19	D	03	-	-	B	GOU 1	1	-	-	-	-	-	1	17	1	12	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	POSSIBLE TABLEWARE OR CANDLESTICK.
18016	19	D	03	-	-	B	GOU 1	1	-	-	-	-	-	-	99	1	-	128	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-

ANCS#	CAT#	TKSCI	STP	OTHER	UNIT	STR	TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAK1	VAR3	VAK4	VAR5	VAK6	VAK7	VAR8	VAK9	VAR11	PATN	FUNCT	COMNTS	TRANSLATION	NOTE
18017	19	D	03	-	-	B	GOU 1	1	-	-	-	-	-	-	99	1	-	128	-	-	110	0	35	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18014	19	D	03	-	-	B	GOU 1	7	-	-	-	-	-	-	99	1	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18013	19	D	03	-	-	B	GOU 1	1	-	-	-	-	9	-	99	1	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18012	19	D	03	-	-	B	GOU 1	10	-	-	-	-	-	-	99	1	-	-	-	-	110	0	35	TOTAL UNIDENTIFIED GLASS/GENERAL	-
15497	19	D	03	-	-	B	GOU 1	1	-	1880	1915	-	-	-	99	11	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	GILDED, VERTICAL HATCHING.
18019	19	D	03	-	-	B	SAB 1	15	0.062	-	-	-	1	-	2	-	-	-	-	-	216	-	-	Brick	-
18020	19	D	03	-	-	B	SAB 4	1	-	-	-	999	1	-	2	-	-	-	-	-	216	-	-	Building Block	HAS PORTION OF WORD 'TAU....' ? IMPRESSED IN TOP.
18021	19	D	03	-	-	B	SAF 3	1	-	1830	-	-	42	-	417	-	-	-	-	-	212	-	-	Machine Cut Nail	-
18022	19	D	03	-	-	B	SAF 3	1	-	1830	-	-	42	-	2	-	-	-	-	-	212	-	-	Machine Cut Nail	-
18023	19	D	03	-	-	B	SAF 7	20	-	-	-	-	42	-	2	-	-	-	-	-	212	-	-	Unidentified Nail	-
18024	19	D	03	-	-	B	SAG 1	14	0.014	-	-	-	2	-	2	10	-	-	-	-	211	-	-	Modern Window Glass	-
18025	19	D	03	-	-	B	SAG 8	4	0.014	-	1840	-	2	-	2	12	-	-	-	-	211	-	-	Crown Glass	-
18026	19	D	03	-	-	B	SAG11	7	0.007	1820	1926	-	2	-	2	11	-	-	-	-	211	-	-	Broad Glass	-
18027	19	D	03	-	-	B	SOS 1	8	-	-	-	-	42	-	2	-	-	-	-	-	-	-	-	Unidentified Metal	-
18028	19	D	03	-	-	B	SUM20	1	-	-	-	-	82	-	2	-	-	-	-	-	325	-	-	Mirror Glass	-
18029	19	D	03	-	-	B	SXA 4	7	0.061	-	-	-	35	-	2	-	-	-	-	-	863	-	-	Cinder	-
18030	19	D	03	-	-	B	SXA 5	2	0.052	-	-	-	31	-	2	-	-	-	-	-	863	-	-	Slag	-
18031	19	D	03	-	-	B	ZMD60	1	-	-	-	-	9	-	50	9	-	-	-	-	1197	-	-	Pig	-
18032	19	D	03	-	-	B	ZMD70	1	-	-	-	1	3	-	120	3	-	-	-	-	1197	-	-	Cow	-
18033	19	D	03	-	-	B	ZMZ 5	4	-	-	-	-	-	-	999	2	-	-	-	-	1199	-	-	Large Mammal	-
18034	19	D	03	-	-	B	ZXF 1	-	0.001	-	-	-	-	-	700	2	-	-	-	-	1197	-	-	Oyster/Clam	-
18035	20	E	01	-	-	A	CER 1	1	-	-	-	-	-	-	10	-	-	-	-	-	101	99	-	Redware - Unglazed	PROBABLY A FLOWER POT.
18036	20	E	01	-	-	A	CER62	3	-	-	-	-	-	753	10	-	-	-	-	-	101	99	-	Redware - Brown Glaze	-
18038	20	E	01	-	-	A	CRK 2	1	-	1762	1820	-	-	-	701	-	-	-	-	-	101	99	-	Creamware - Plain	-
18039	20	E	01	-	-	A	CRK 2	1	-	1762	1820	-	-	-	14	-	-	-	-	-	101	99	-	Creamware - Plain	-
18037	20	E	01	-	-	A	CRK 2	2	-	1762	1820	-	-	-	50	-	-	-	-	-	101	2	69	Creamware - Plain	BASE SHEKDS.

ANCS#	CAT#	TRSET	STP	OTHER	UNIT	STR	TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAR1	VAR3	VAR4	VAR5	VAR6	VAR7	VAR8	VAR9	VAR11	PATN	FUNCT	COMMENTS	TRANSLATION	NOTE
18040	20	E	01	-	-	A	CRD 1	1	-	1625	1800	-	-	-	14	-	-	-	-	-	101	99	-	Delftware - Body Fragments Without Glaze	-
18041	20	E	01	-	-	A	CRP 2	1	-	1775	1840	-	-	-	10	-	-	-	-	-	101	99	-	Pearlware - Plain	FLUTED BODY BUT NOT THE TEACUP THIS CAT#
18042	20	E	01	-	-	A	CRP37	2	-	1795	1820	-	-	125	99	-	2	-	-	-	101	1	69	Pearlware - Underglaze Handpainted - Brown	FLUTED BODY, VERY DELICATELY FAINTED, ALSO HAS FAINTED SHELL BORDER.
18043	20	E	01	-	-	A	CRW 2	6	-	1820	1985	-	-	-	14	-	-	-	-	-	101	99	-	Whiteware - Plain	-
18044	20	E	01	-	-	A	CRW50	3	-	1820	1915	-	-	999	14	-	-	-	-	-	101	99	-	Whiteware - Transfer Printed - Blue, General	-
18045	20	E	01	-	-	A	CRW80	1	-	1880	1985	-	-	102	50	-	-	-	-	-	101	2	-	Whiteware - Decal - Overglaze	RIM SHERD; POLYCHROME
18046	20	E	01	-	-	A	CSL11	1	-	1800	1940	-	-	-	10	-	-	-	-	-	101	99	-	Stoneware - Gray Salt Glazed w/ Albany Type Slip	-
18047	20	E	01	-	-	A	GBA 3	5	-	-	-	-	-	-	99	5	-	-	-	-	102	21	-	WINE/LIQUOR BOTTLE	-
18048	20	E	01	-	-	A	GBA 3	1	-	1850	-	-	-	-	1	5	7	-	-	9999	102	21	-	WINE/LIQUOR BOTTLE	EMBOSSED "EACON/...AN..." (on base); BEGDATE AS FOR JONES & SULLIVAN 1985: 47.
18051	20	E	01	-	-	A	GBU 1	1	-	-	-	-	-	-	1	7	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18050	20	E	01	-	-	A	GBU 1	3	-	-	-	-	-	-	1	9	-	-	-	-	102	28	34	UNIDENTIFIED BOTTLE/GENERAL	(2) VESSEL REPRESENTED
18049	20	E	01	-	-	A	GBU 1	2	-	-	-	-	-	-	99	3	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	DARK TEAL.
18052	20	E	01	-	-	A	GBU 1	2	-	-	-	-	-	-	99	1	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18064	20	E	01	-	-	A	PTE95	1	-	-	-	19	-	-	-	-	1	-	1	-	751	-	-	Pipe Bowls - Unidentified Shape Decorated Bowl	MARK ON BOWL APPEARS TO BE PART OF A SHIELD FILLED W/ LATTICE WORK.
18065	20	E	01	-	-	A	PTS 1	1	-	-	-	-	-	-	-	-	10	-	5	-	751	-	-	Pipe Stems - Measurable	-
18066	20	E	01	-	-	A	PTS98	1	-	-	-	-	-	-	-	-	10	-	1	-	751	-	-	Pipe Stems - Unmeasurable Fragment	-
18053	20	E	01	-	-	A	SAB 1	2	0.069	-	-	-	-	1	2	-	-	-	-	-	216	-	-	Brick	ONE IS BURNED.
18054	20	E	01	-	-	A	SAF 7	8	-	-	-	-	42	-	2	-	-	-	-	-	212	-	-	Unidentified Nail	-
18055	20	E	01	-	-	A	SAG 1	3	0.003	-	-	-	-	2	2	10	-	-	-	-	211	-	-	Modern Window Glass	-
18056	20	E	01	-	-	A	SAG11	2	0.001	1820	1926	-	-	2	2	10	-	-	-	-	211	-	-	Broad Glass	-
18057	20	E	01	-	-	A	SXA 1	1	0.006	-	-	-	-	107	-	2	-	-	-	-	863	-	-	Coal	-
18058	20	E	01	-	-	A	SXA 4	3	0.014	-	-	-	-	35	-	2	-	-	-	-	863	-	-	Cinder	-
18059	20	E	01	-	-	A	SXA 5	5	0.012	-	-	-	-	31	-	2	-	-	-	-	863	-	-	Slag	-

ANCS#	CAT#	TRCST	STP	OTHER	UNIT	STR	TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAR1	VAR3	VAR4	VAR5	VAR6	VAR7	VAR8	VAR9	VAR11	PATN	FUNCT	COMMENTS	TRANSLATION	NOTE
18061	20	E	01	-	-	A	ZMZ 1	1	-	-	-	-	-	-	120	2	4	-	-	-	1199	-	-	Unidentified Mammal	-
18062	20	E	01	-	-	A	ZMZ 4	1	-	-	-	-	-	-	999	2	-	-	-	-	1199	-	-	Medium Mammal	-
18060	20	E	01	-	-	A	ZMZ 4	4	-	-	-	-	-	-	38	2	-	-	-	-	1199	-	-	Medium Mammal	-
18063	20	E	01	-	-	A	ZXP 1	1	0.001	-	-	-	-	-	700	2	-	-	-	-	1197	-	-	Oyster/Clam	-
18067	21	E	01	-	-	B	CER 1	2	-	-	-	-	-	-	999	712	-	-	-	-	101	99	-	Redware - Unglazed	-
18068	21	E	01	-	-	B	CER 1	3	-	-	-	-	-	-	14	-	-	-	-	-	101	99	-	Redware - Unglazed	FRAGMENTS - ONE POSSIBLY A BRICK.
18069	21	E	01	-	-	B	CER61	4	-	-	-	-	-	-	750	303	-	5	-	-	101	4	91	Redware - Dark Brown Glaze	3 SHERDS MEMO, BADLY CHARRKED.
18070	21	E	01	-	-	B	CER62	3	-	-	-	-	-	-	750	14	-	-	-	-	101	99	-	Redware - Brown Glaze	-
18071	21	E	01	-	-	B	CER62	1	-	-	-	-	-	-	750	14	-	-	-	-	101	99	91	Redware - Brown Glaze	-
18072	21	E	01	-	-	B	CRP51	1	-	1815	1835	-	-	-	100	50	-	1	-	-	101	2	-	Pearlware - Transfer Printed - 'Old Blue'	-
18073	21	E	01	-	-	B	CRW 2	2	-	1820	1985	-	-	-	15	-	-	-	-	-	101	99	-	Whiteware - Plain	-
18074	21	E	01	-	-	B	CRW 2	2	-	1820	1985	-	-	-	50	-	-	-	-	-	101	2	-	Whiteware - Plain	RIMS - ONE IS CC OK LATE CW.
18075	21	E	01	-	-	B	CRW 2	9	-	1820	1985	-	-	-	14	-	-	-	-	-	101	99	-	Whiteware - Plain	-
18076	21	E	01	-	-	B	CRW10	1	-	1810	1840	-	-	-	982	50	-	-	-	-	101	99	-	Whiteware - Shell Edge - Blue	RIM FRAGMENT.
18077	21	E	01	-	-	B	CRW20	1	-	1820	1985	-	-	-	10	-	-	-	-	-	101	99	-	Whiteware - Other Embossed Rims	EITHER PANELED BODY OR SPOUT BASE.
18078	21	E	01	-	-	B	CRW50	1	-	1820	1915	-	-	-	301	10	-	-	-	-	101	99	-	Whiteware - Transfer Printed - Blue, General	-
18079	21	E	01	-	-	B	CRW50	2	-	1820	1915	-	-	-	301	50	-	-	-	-	101	2	-	Whiteware - Transfer Printed - Blue, General	RIM FRAGMENTS.
18080	21	E	01	-	-	B	CRW50	2	-	1820	1915	-	-	-	999	14	-	-	-	-	101	99	-	Whiteware - Transfer Printed - Blue, General	-
18081	21	E	01	-	-	B	CRW50	3	-	1820	1915	-	-	-	140	14	-	-	-	-	101	99	-	Whiteware - Transfer Printed - Blue, General	VARIOUS VESSELS.
18082	21	E	01	-	-	B	CRW52	1	-	1820	1915	-	-	-	41	10	-	-	-	-	101	99	-	Whiteware - Transfer Printed - Brown	FRAGMENT.
18083	21	E	01	-	-	B	CRW60	1	-	1820	1900	-	-	-	50	10	-	-	-	-	101	99	-	Whiteware - Dipped - General	FRAGMENT.
18084	21	E	01	-	-	B	CRY 2	1	-	1827	1940	-	-	-	11	-	-	-	-	-	101	99	-	Yellowware - Plain	-
18085	21	E	01	-	-	B	CRY60	1	-	1827	1940	-	-	-	563	10	-	-	-	-	101	99	-	Yellowware - Dipped - General	WHITE, BLUE, & BROWN SLIPS.
18086	21	E	01	-	-	B	CRY76	1	-	1812	1920	-	-	-	12	-	-	-	-	-	101	99	-	Yellowware - Rockingham Type Glaze	-
18087	21	E	01	-	-	B	CRY76	3	-	1812	1920	-	-	-	10	-	-	-	-	-	101	99	-	Yellowware - Rockingham Type Glaze	-

ANCS#	CAT#	TRCCT	STP	OTHER	UNIT	STR	TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAR1	VAR3	VAR4	VAR5	VAR6	VAR7	VAR8	VAR9	VAR11	PATN	FUNCT	COMNTS	TRANSLATION	NOTE
18088	21	E	01	-	-	B	CSB11	1	-	1800	1940	-	-	-	14	-	-	-	-	-	101	99	-	Stoneware - Brown Salt Glazed w/ Albany Type Slip	FRAGMENT - POSSIBLY SEWER PIPE.
18089	21	E	01	-	-	B	CSL 2	1	-	-	-	-	-	-	10	-	-	-	-	-	101	99	-	Stoneware - Plain - Gray Salt Glazed	-
18090	21	E	01	-	-	B	CSL72	1	-	1800	1940	-	-	-	10	-	-	-	-	-	101	99	-	Stoneware - Buff Salt Glazed - Albany Type Slip	UNDEFIRED.
18093	21	E	01	-	-	B	GBA 3	2	-	-	-	-	-	-	99	8	-	-	-	-	102	21	-	WINE/LIQUOR BOTTLE	SHERDS GROUPED.
18091	21	E	01	-	-	B	GBA 3	4	-	-	-	-	-	-	99	5	-	-	-	-	102	21	-	WINE/LIQUOR BOTTLE	-
18092	21	E	01	-	-	B	GBA19	2	-	-	-	-	-	-	99	5	-	156	-	-	102	21	34	CASE BOTTLE	SHERDS GROUPED; (1) FINISH/(1) BODY.
18094	21	E	01	-	-	B	GBU 1	1	-	-	-	-	-	-	1	9	-	-	-	9999	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	EMBOSSED "UB..."
18095	21	E	01	-	-	B	GBU 1	4	-	-	-	-	-	-	99	9	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18096	21	E	01	-	-	B	GOU 1	5	-	-	-	-	-	-	99	1	-	-	-	-	110	0	35	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18097	21	E	01	-	-	B	SAB 1	6	0.086	-	-	-	1	-	2	-	-	-	-	-	216	-	-	Brick	-
18098	21	E	01	-	-	B	SAF 6	1	-	1850	-	-	42	-	417	-	-	-	-	-	212	-	-	Wire Nail	BURNED.
18099	21	E	01	-	-	B	SAF 7	17	-	-	-	-	42	-	2	-	-	-	-	-	212	-	-	Unidentified Nail	-
18100	21	E	01	-	-	B	SAG 1	11	0.013	-	-	-	2	-	2	10	-	-	-	-	211	-	-	Modern Window Glass	-
18101	21	E	01	-	-	B	SAG11	14	0.021	1820	1926	-	2	-	2	11	-	-	-	-	211	-	-	Brood Glass	-
18102	21	E	01	-	-	B	SOS 1	16	-	-	-	-	42	-	2	-	-	-	-	-	-	-	-	Unidentified Metal	-
18103	21	E	01	-	-	B	SOS10	1	-	-	-	-	110	-	1	-	-	-	-	-	-	-	-	Rock/Stone	-
18104	21	E	01	-	-	B	SUM20	1	-	-	-	-	82	-	2	-	-	-	-	-	325	-	-	Mirror Glass	-
18105	21	E	01	-	-	B	SXA 1	5	0.063	-	-	-	107	-	2	-	-	-	-	-	863	-	-	Coal	-
18106	21	E	01	-	-	B	SXA 4	7	0.04	-	-	-	35	-	2	-	-	-	-	-	863	-	-	Cinder	-
18107	21	E	01	-	-	B	SXA 5	2	0.02	-	-	-	31	-	2	-	-	-	-	-	863	-	-	Slag	-
18108	21	E	01	-	-	B	ZMZ 4	1	-	-	-	-	-	-	120	2	4	-	-	-	1199	-	-	Medium Mammal	-
18109	21	E	01	-	-	B	ZXP10	-	0.025	-	-	-	-	-	700	2	-	-	-	-	1197	-	-	Oyster	-
18110	22	E	02	-	-	A	CER 1	1	-	-	-	-	-	-	520	-	-	-	-	-	856	8	-	Redware - Unglazed	RIM SHERD.
18111	22	E	02	-	-	A	CRW 2	1	-	1820	1985	-	-	-	16	-	-	-	-	-	101	99	-	Whiteware - Plain	-
18112	22	E	02	-	-	A	GBA 3	2	-	-	-	-	-	-	99	5	-	-	-	-	102	21	-	WINE/LIQUOR BOTTLE	-
18113	22	E	02	-	-	A	GBU 1	1	-	-	-	-	-	-	1	1	-	-	-	-	102	28	34	UNIDENTIFIED BOTTLE/GENERAL	-

ANCS#	CAT#	TRCST	STP	OTHER	UNIT	STR	TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAR1	VAR3	VAR4	VAR5	VAR6	VAR7	VAR8	VAR9	VAR11	PATN	FUNCT	COMNTS	TRANSLATION	NOTE
18114	22	E	02	-	-	A	GBU 1	1	-	-	-	-	-	-	99	9	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18115	22	E	02	-	-	A	GBU 1	1	-	-	-	-	-	-	99	7	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18116	22	E	02	-	-	A	GOU 1	3	-	-	-	-	-	-	99	1	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18117	22	E	02	-	-	A	GOU 1	1	-	-	-	-	-	-	99	1	-	-	-	-	110	0	35	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18118	22	E	02	-	-	A	SAB 1	1	0.001	-	-	-	1	-	2	-	-	-	-	-	216	-	-	Brick	-
18119	22	E	02	-	-	A	SAF 3	2	-	1830	-	-	42	-	2	-	-	-	-	-	212	-	-	Machine Cut Nail	-
18120	22	E	02	-	-	A	SAG 1	1	0.001	-	-	-	2	-	2	10	-	-	-	-	211	-	-	Modern Window Glass	-
18121	22	E	02	-	-	A	SOS 1	1	-	-	-	-	42	-	2	-	-	-	-	-	-	-	-	Unidentified Metal	-
18122	22	E	02	-	-	A	SXA 5	1	0.006	-	-	-	31	-	2	-	-	-	-	-	863	-	-	Slag	-
18123	22	E	02	-	-	A	SXR29	1	-	1870	1930	-	160	-	2	-	-	-	-	-	859	-	-	Bisque Dolls (Slip-Cast)	-
18124	23	E	02	-	-	B	CER 1	1	-	-	-	-	-	-	10	-	-	-	-	-	101	99	-	Redware - Unglazed	FLOWER POT
18125	23	E	02	-	-	B	CPJ 2	1	-	-	-	-	-	-	14	-	-	-	-	-	101	99	-	Hard Paste Porcelain - Plain	THICK BODY.
18126	23	E	02	-	-	B	CPF10	1	-	-	-	-	-	-	15	-	-	-	-	-	101	99	-	Oriental Porcelain - Underglaze Blue - Miscellaneous Undated	-
18127	23	E	02	-	-	B	CR1 2	1	-	1840	1985	-	-	-	10	-	-	-	-	-	101	99	-	Ironstone - Plain	-
18129	23	E	02	-	-	B	CRW 2	1	-	1820	1985	-	-	-	701	-	-	-	-	-	101	99	-	Whiteware - Plain	-
18128	23	E	02	-	-	B	CRW 2	4	-	1820	1985	-	-	-	14	-	-	-	-	-	101	99	-	Whiteware - Plain	-
18130	23	E	02	-	-	B	CRW10	2	-	1820	1900	-	-	999	50	-	5	-	-	-	101	2	99	Whiteware - Shell Edge - Blue	-
18131	23	E	02	-	-	B	CRW50	1	-	1820	1915	-	-	100	10	-	-	-	-	-	101	99	99	Whiteware - Transfer Printed - Blue, General	-
18132	23	E	02	-	-	B	CRW50	1	-	1820	1915	-	-	999	10	-	-	-	-	-	101	99	-	Whiteware - Transfer Printed - Blue, General	-
18133	23	E	02	-	-	B	CRW98	2	-	1820	1985	-	-	19	50	-	-	-	-	-	101	2	69	Other Whiteware	SPALLED BUT TRACES OF MOLDED RIM IN "ROPE" PATTERN COLORED YELLOW.
18134	23	E	02	-	-	B	GBA 3	1	-	-	-	-	-	-	99	5	-	-	-	-	102	21	-	WINE/LIQUOR BOTTLE	-
18135	23	E	02	-	-	B	GBU 1	2	-	-	-	-	-	-	99	9	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18136	23	E	02	-	-	B	GBZ 1	3	-	1903	-	-	-	-	24	1	8	-	-	9999	102	24	-	BEVERAGE/GENERAL	SHERDS GROUPED, EMBOSSED "...OL..." AND "10..." ON BODIES AND "...OZ..." ON BASE; BEGDATE AS PER JONES & SULLIVAN 1985:38
18137	23	E	02	-	-	B	GOU 1	6	-	-	-	-	-	-	99	1	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-

AMCS#	CAT#	TR SCT	STP	OTHER	UNIT	STR TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAR1	VAR3	VAR4	VAR5	VAR6	VAR7	VAR8	VAR9	VAR11	FATM	FUNCT	COMMENTS	TRANSLATION	NOTE
18138	23	E	02	-	-	B SAB 1	3	0.007	-	-	-	1	-	2	-	-	-	-	-	216	-	-	Brick	-
18139	23	E	02	-	-	B SAR20	2	0.01	-	-	-	101	-	2	-	-	-	-	-	216	-	-	Mortar	-
18140	23	E	02	-	-	B SAF 7	13	-	-	-	-	42	-	2	-	-	-	-	-	212	-	-	Unidentified Nail	-
18141	23	E	02	-	-	B SAG11	5	0.003	1820	1926	-	2	-	2	11	-	-	-	-	211	-	-	Broad Glass	-
18142	23	E	02	-	-	B SOS 1	16	-	-	-	-	42	-	2	-	-	-	-	-	-	-	-	Unidentified Metal	-
18143	23	E	02	-	-	B SXA 5	1	0.006	-	-	-	31	-	2	-	-	-	-	-	863	-	-	Slag	-
18144	23	E	02	-	-	B ZM7 4	3	-	-	-	-	-	-	120	2	-	-	-	-	1199	-	-	Medium Mammal	-
18145	24	F	01	-	-	A CER 1	4	-	-	-	-	-	-	14	-	-	-	-	-	101	99	-	Redware - Unglazed	-
18146	24	F	01	-	-	A CER62	2	-	-	-	-	750	10	-	-	-	-	-	-	101	99	-	Redware - Brown Glaze	-
18147	24	F	01	-	-	A CER62	1	-	-	-	-	752	10	-	-	-	-	-	-	101	99	-	Redware - Brown Glaze	-
18148	24	F	01	-	-	A CRC 2	2	-	1762	1820	-	-	-	14	-	-	-	-	-	101	99	-	Creamware - Plain	-
18149	24	F	01	-	-	A CRF 2	1	-	1775	1840	-	-	-	14	-	-	-	-	-	101	99	-	Pearlware - Plain	-
18150	24	F	01	-	-	A CRF50	1	-	1800	1840	-	-	103	119	-	-	-	-	-	101	1	-	Pearlware - Transfer Printed - Blue, with Stipple	RIM SHERD; CHINOISEKIE DEC.
18151	24	F	01	-	-	A CRW 2	10	-	1820	1985	-	-	-	14	-	-	-	-	-	101	99	-	Whiteware - Plain	-
18152	24	F	01	-	-	A CRW 2	1	-	1820	1985	-	-	19	10	-	-	-	-	-	101	99	-	Whiteware - Plain	DOUBLE-CURVED ?
18153	24	F	01	-	-	A CRW50	2	-	1820	1915	-	-	999	14	-	-	-	-	-	101	99	-	Whiteware - Transfer Printed - Blue, General	-
18154	24	F	01	-	-	A CRW52	1	-	1820	1915	-	-	41	14	-	-	-	-	-	101	99	-	Whiteware - Transfer Printed - Brown	-
18155	24	F	01	-	-	A CRY 2	3	-	1827	1940	-	-	-	14	-	-	-	-	-	101	99	-	Yellowware - Plain	-
18156	24	F	01	-	-	A CRY75	1	-	1850	1940	-	-	-	14	-	-	-	-	-	101	99	-	Yellowware - Miscellaneous Brown Glaze	-
18157	24	F	01	-	-	A CSL11	1	-	1800	1940	-	-	-	126	-	-	-	-	-	101	12	-	Stoneware - Gray Salt Glazed w/ Albany Type Slip	SHOULDER SHERD.
18158	24	F	01	-	-	A CSL30	1	-	1835	1985	-	-	-	10	-	-	-	-	-	101	99	-	Stoneware - Gray Salt Glazed w/ Bristol Type Slip	-
18160	24	F	01	-	-	A GBA 3	4	-	-	-	-	-	-	99	5	-	-	-	-	102	21	-	WINE/LIQUOR BOTTLE	-
18159	24	F	01	-	-	A GBA 3	1	-	-	-	-	-	-	99	8	-	-	-	-	102	21	-	WINE/LIQUOR BOTTLE	-
18161	24	F	01	-	-	A GBU 1	1	-	-	-	-	-	-	1	1	-	-	-	9999	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	EMBOSSED "...RED..." OR "...BED..."
18162	24	F	01	-	-	A GBU 1	1	-	1880	1915	-	-	-	1	11	-	-	-	-	102	28	34	UNIDENTIFIED BOTTLE/GENERAL	DATED MUMSEY 1970:55.

ANCS#	CAT#	TR SCT	STP	OTHER	UNIT	STR	TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAR1	VAR3	VAR4	VAR5	VAR6	VAR7	VAR8	VAR9	VAR11	PATN	FUNCT	COMMENTS	TRANSLATION	NOTE
18164	24	F	01	-	-	A	GBU 1	2	-	-	-	-	-	-	99	7	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	LIGHT AMBER.
18165	24	F	01	-	-	A	GBU 1	3	-	-	-	-	-	-	99	7	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	BROWN.
18166	24	F	01	-	-	A	GBU 1	1	-	-	-	-	-	-	1	9	-	299	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18168	24	F	01	-	-	A	GBU 1	2	-	-	-	-	-	-	1	1	-	-	-	9999	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	ILLEGIBLE EMBOSSEMENTS.
18167	24	F	01	-	-	A	GBU 1	5	-	-	-	-	-	-	1	9	-	-	-	-	102	28	34	UNIDENTIFIED BOTTLE/GENERAL	-
18163	24	F	01	-	-	A	GBU 1	1	-	-	-	-	-	-	1	9	-	999	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18169	24	F	01	-	-	A	GOU 1	4	-	1880	1915	-	-	-	99	11	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	DATED MUSEY 1970-55
18170	24	F	01	-	-	A	GOU 1	18	-	-	-	-	-	-	99	1	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18171	24	F	01	-	-	A	GOU 1	4	-	-	-	-	-	-	99	1	-	-	-	-	110	0	35	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18172	24	F	01	-	-	A	GOU 1	2	-	-	-	-	-	-	99	1	-	128	-	-	110	0	35	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18173	24	F	01	-	-	A	GOU 1	1	-	-	-	-	-	-	99	2	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18174	24	F	01	-	-	A	GTU 1	1	-	-	-	-	-	-	1	17	1	-	-	-	105	31	-	UNIDENTIFIED TABLEWARE/GENERAL	POSSIBLE TUMBLER
18186	24	F	01	-	-	A	PTS 1	1	-	-	-	-	-	-	-	10	-	6	-	-	751	-	-	Pipe Stems - Measurable	-
18175	24	F	01	-	-	A	SAB 1	14	0.094	-	-	-	-	1	-	2	-	-	-	-	216	-	-	Brick	-
18176	24	F	01	-	-	A	SAF 3	6	-	1830	-	-	-	42	-	2	-	-	-	-	212	-	-	Machine Cut Nail	-
18177	24	F	01	-	-	A	SAG 1	3	0.001	-	-	-	-	2	-	2	10	-	-	-	211	-	-	Modern Window Glass	-
18178	24	F	01	-	-	A	SAG 8	2	0.001	-	1840	-	-	2	-	2	12	-	-	-	211	-	-	Crown Glass	-
18179	24	F	01	-	-	A	SAG11	2	0.001	1820	1926	-	-	2	-	2	11	-	-	-	211	-	-	Broad Glass	-
18180	24	F	01	-	-	A	SDA44	1	-	-	-	-	-	42	-	2	-	-	-	-	102	-	-	Bottle Cap	-
18181	24	F	01	-	-	A	SOS 1	7	-	-	-	-	-	42	-	2	-	-	-	-	-	-	-	Unidentified Metal	-
18182	24	F	01	-	-	A	SXA 1	1	0.001	-	-	-	-	107	-	2	-	-	-	-	863	-	-	Coal	-
18183	24	F	01	-	-	A	SXA 4	8	0.019	-	-	-	-	35	-	2	-	-	-	-	863	-	-	Cinder	-
18184	24	F	01	-	-	A	SXA 5	4	0.01	-	-	-	-	31	-	2	-	-	-	-	863	-	-	Slag	-
18185	24	F	01	-	-	A	ZKZ 4	1	-	-	-	-	-	-	120	2	-	-	-	-	1199	-	-	Medium Mammal	-
18187	25	F	01	-	-	B	CEH98	3	-	-	-	-	-	19	710	-	-	-	-	-	101	99	-	Buff White Bodied - Other	FAIRLY REFINED BUFF BODY; EXTERIOR GLAZE IS EXTREMELY LUSTROUS.
18190	25	F	01	-	-	B	CER 1	1	-	-	-	-	-	-	520	-	-	-	-	-	856	8	-	Redware - Unglazed	RIM SHERD.

ANCS#	CAT#	TRCST	STP	OTHER	UNIT	STR	TYPE	COUNT	WEIGHT	REGDATE	ENDDATE	VAK1	VAK3	VAK4	VAK5	VAK6	VAK7	VAK8	VAK9	VAK11	PATN	FUNCT	COMNTS	TRANSLATION	NOTE
18188	25	F	01	-	-	B	CER 1	1	-	-	-	-	-	899	520	-	-	-	-	-	856	8	-	Redware - Unglazed	RIM; PATTERN OF STRAIGHT & SWIRLED LINES.
18189	25	F	01	-	-	B	CER 1	2	-	-	-	-	-	14	-	-	-	-	-	-	101	99	-	Redware - Unglazed	-
18191	25	F	01	-	-	B	CER62	1	-	-	-	-	-	754	10	-	-	-	-	-	101	99	-	Redware - Brown Glaze	-
18193	25	F	01	-	-	B	CPF 2	1	-	-	-	-	-	14	-	-	-	-	-	-	101	99	-	Soft Paste Porcelain - Plain	-
18192	25	F	01	-	-	B	CPF 2	2	-	-	-	-	-	99	-	-	-	-	-	-	101	1	99	Soft Paste Porcelain - Plain	RIM SHERDS
18194	25	F	01	-	-	B	CPF30	1	-	-	-	-	-	19	14	-	1	-	-	-	101	99	-	Soft Paste Porcelain - Embossed	FRAGMENT; POSSIBLY CHELSEA BECAUSE TRACE OF BLUE; EMBOSSED SCROLL WORK.
18195	25	F	01	-	-	B	CPF11	1	-	1790	1840	-	-	19	75	-	2	-	-	-	101	2	-	Oriental Porcelain - Underglaze Blue - Canton, Manking Borders	LARGE VESSEL; BROWN LINE ATOP RIM; CANTON.
18196	25	F	01	-	-	B	CRC 2	3	-	1800	1840	-	-	-	14	-	-	-	-	-	101	99	-	Creamware - Plain	LATE - CC.
18198	25	F	01	-	-	B	CRP 2	3	-	1800	1840	-	-	-	14	-	-	-	-	-	101	99	-	Pearlware - Plain	LATE.
18197	25	F	01	-	-	B	CRP 2	1	-	1775	1840	-	-	-	12	-	-	-	-	-	101	99	-	Pearlware - Plain	-
18199	25	F	01	-	-	B	CRP35	1	-	1800	1840	-	-	100	99	-	1	-	-	-	101	1	-	Pearlware - Underglaze Handpainted - Blue	LONDON SHAPE
18202	25	F	01	-	-	B	CRW 2	1	-	1820	1985	-	-	-	99	-	-	-	-	-	101	1	-	Whiteware - Plain	RIM SHERD.
18200	25	F	01	-	-	B	CRW 2	1	-	1820	1985	-	-	-	12	-	-	-	-	-	101	99	-	Whiteware - Plain	-
18201	25	F	01	-	-	B	CRW 2	18	-	1820	1985	-	-	-	14	-	-	-	-	-	101	99	-	Whiteware - Plain	-
18203	25	F	01	-	-	B	CRW10	2	-	1810	1850	-	-	987	50	-	2	-	-	-	101	2	-	Whiteware - Shell Edge - Blue	-
18205	25	F	01	-	-	B	CRW50	2	-	1820	1915	-	-	100	50	-	5	-	-	-	101	2	69	Whiteware - Transfer Printed - Blue, General	BEADED BORDER, FLOWER & SCROLL PRINT.
18204	25	F	01	-	-	B	CRW50	2	-	1810	1860	-	-	140	95	-	1	-	-	-	101	1	69	Whiteware - Transfer Printed - Blue, General	-
18207	25	F	01	-	-	B	CRY 2	5	-	1827	1940	-	-	-	10	-	-	-	-	-	101	99	-	Yellowware - Plain	-
18206	25	F	01	-	-	B	CRY 2	1	-	1827	1940	-	-	-	11	-	-	-	-	-	101	99	-	Yellowware - Plain	-
18208	25	F	01	-	-	B	CRY64	3	-	1812	1900	-	-	19	705	-	-	-	-	-	101	99	69	Yellowware - Dipped - Simple Bands	ONE INCISED LINE FILLED-IN W/ BLUE; PROBABLY ENGLISH; PROBABLY A CHAMBER POT.
18209	25	F	01	-	-	B	GBA 3	4	-	-	-	-	-	-	99	5	-	-	-	-	102	21	-	WINE/LIQUOR BOTTLE	-
18210	25	F	01	-	-	B	GBU 1	1	-	-	-	-	-	1	1	9	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18212	25	F	01	-	-	B	GBU 1	4	-	-	-	-	-	-	99	9	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-

ANCS#	CAT#	TKSCT	STP	OTHER	UNIT	STR	TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAR1	VAR3	VAR4	VAR5	VAR6	VAR7	VAR8	VAR9	VAR11	PATN	FUNCT	COMNTS	TRANSLATION	NOTE
18211	25	F	01	-	-	B	GBU 1	2	-	-	-	-	-	9999	1	1	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	(2) VESSELS REPRESENTED.
18214	25	F	01	-	-	B	GBU 1	1	-	-	-	-	-	-	1	9	-	-	-	9999	102	28	34	UNIDENTIFIED BOTTLE/GENERAL	EMBOSSED "...RY"
18213	25	F	01	-	-	B	GBU 1	1	-	-	-	-	-	1	1	1	99	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18215	25	F	01	-	-	B	GEX 5	2	-	-	-	-	-	22	17	2	-	140	-	-	102	25	-	JAR/GENERAL	POSSIBLE COSMETIC.
18216	25	F	01	-	-	B	GOG 5	1	-	-	-	-	-	-	1	1	-	-	-	-	644	28	-	THERMOMETER	-
18218	25	F	01	-	-	B	GOU 1	3	-	-	-	-	-	-	99	1	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18217	25	F	01	-	-	B	GOU 1	4	-	-	-	-	-	-	99	1	-	-	-	-	110	0	35	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18219	25	F	01	-	-	B	GTU 6	1	-	-	-	-	-	-	99	1	-	128	-	-	103	31	-	UNIDENTIFIED TABLEWARE/ENGRAVED-STIEGEL TYPE	POSSIBLE TUMBLER
18220	25	F	01	-	-	B	SAB 1	8	0.108	-	-	-	-	1	-	2	-	-	-	-	216	-	-	Brick	-
18221	25	F	01	-	-	B	SAB20	4	0.299	-	-	-	-	101	-	2	-	-	-	-	216	-	-	Mortar	-
18222	25	F	01	-	-	B	SAF 3	1	-	1830	-	-	-	42	-	417	-	-	-	-	212	-	-	Machine Cut Nail	-
18223	25	F	01	-	-	B	SAF 3	5	-	1830	-	-	-	42	-	2	-	-	-	-	212	-	-	Machine Cut Nail	-
18224	25	F	01	-	-	B	SAF 7	34	-	-	-	-	-	42	-	2	-	-	-	-	212	-	-	Unidentified Nail	-
18225	25	F	01	-	-	B	SAF17	1	-	-	-	-	-	42	-	2	-	-	-	-	212	-	-	Railroad Spike	-
18226	25	F	01	-	-	B	SAG11	6	0.007	1820	1926	-	-	2	-	2	11	-	-	-	211	-	-	Broad Glass	-
18227	25	F	01	-	-	B	SAT 1	1	-	-	-	-	-	162	-	2	-	-	-	-	216	-	-	Tile	-
18228	25	F	01	-	-	B	SC298	2	-	-	-	-	-	7	-	2	-	-	-	-	534	-	-	Misc. Shoe Part	2 ARE HEEL PARTS, POSSIBLY THE SAME SHOE, MAYBE A CHILD'S OR LADIES.
18229	25	F	01	-	-	B	SXA 1	7	0.071	-	-	-	-	107	-	2	-	-	-	-	863	-	-	Coal	-
18230	25	F	01	-	-	B	SXA 3	1	0.001	-	-	-	-	6	-	2	-	-	-	-	863	-	-	Charred Wood	-
18231	25	F	01	-	-	B	SXA 4	10	0.047	-	-	-	-	35	-	2	-	-	-	-	863	-	-	Cinder	-
18232	25	F	01	-	-	B	SXA 5	4	0.038	-	-	-	-	31	-	2	-	-	-	-	863	-	-	Slag	-
18233	25	F	01	-	-	B	ZB2 1	4	-	-	-	-	-	-	120	2	-	-	-	-	1199	-	-	Unidentified Bird	-
18234	25	F	01	-	-	B	ZMD70	1	-	-	-	-	-	3	-	89	3	-	-	-	1197	-	-	Cow	ACETABULAR SECTION.
18236	25	F	01	-	-	B	ZM2 4	4	-	-	-	-	-	-	999	2	4	-	-	-	1199	-	-	Medium Mammal	-
18237	25	F	01	-	-	B	ZM2 4	1	-	-	-	-	-	-	30	2	-	-	-	-	1199	-	-	Medium Mammal	-
18235	25	F	01	-	-	B	ZM2 4	6	-	-	-	-	-	-	120	2	-	-	-	-	1199	-	-	Medium Mammal	-

ANCS#	CAT#	TRSET	STP	OTHER	UNIT	STR TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAR1	VAR3	VAR4	VAR5	VAR6	VAR7	VAR8	VAR9	VAR11	PATN	FUNCT	COMMENTS	TRANSLATION	NOTE
18239	26	F	02	-	-	A CER 1	1	-	-	-	-	-	758	12	-	-	-	-	-	101	99	-	Redware - Unglazed	FLOWER POT
18238	26	F	02	-	-	A CER 1	2	-	-	-	-	-	758	10	-	-	-	-	-	101	99	-	Redware - Unglazed	-
18241	26	F	02	-	-	A CRW 2	1	-	1820	1985	-	-	-	119	-	-	-	-	-	101	1	-	Whiteware - Plain	CUP OR SAUCER RIM
18240	26	F	02	-	-	A CRW 2	12	-	1820	1985	-	-	-	14	-	-	-	-	-	101	99	-	Whiteware - Plain	-
18242	26	F	02	-	-	A CRW20	1	-	1820	1985	-	-	999	14	-	-	-	-	-	101	99	-	Whiteware - Other Embossed Rims	-
18243	26	F	02	-	-	A CRW20	1	-	1820	1985	-	-	999	205	-	1	-	-	-	101	2	-	Whiteware - Other Embossed Rims	-
18244	26	F	02	-	-	A CKY 2	2	-	1827	1940	-	-	-	14	-	-	-	-	-	101	99	-	Yellowware - Plain	-
18245	26	F	02	-	-	A CKY76	1	-	1812	1920	-	-	-	710	-	-	-	-	-	101	99	-	Yellowware - Rockingham Type Glaze	-
18246	26	F	02	-	-	A CSL11	1	-	1800	1940	-	-	628	10	-	-	-	-	-	101	99	-	Stoneware - Gray Salt Glazed w/ Albany Type Slip	PROBABLY BOTTLE SHOULDER
18247	26	F	02	-	-	A CSL72	1	-	1800	1940	-	-	-	10	-	-	-	-	-	101	99	-	Stoneware - Buff Salt Glazed - Albany Type Slip	-
18248	26	F	02	-	-	A GEP 6	4	-	-	-	-	-	-	1	9	-	-	-	9999	644	27	34	PATENT/PROPRIETARY MEDICINE/DRUG	SHERDS GROUPED; EMBOSSED "GEMU..."
18251	26	F	02	-	-	A GBU 1	6	-	-	-	-	-	-	99	9	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18250	26	F	02	-	-	A GBU 1	1	-	1850	-	-	-	-	1	9	7	-	-	9999	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	EMBOSSED "S" ON BASE, BEGDATE AS PER JONES & SULLIVAN 1985:47
18249	26	F	02	-	-	A GBU 1	1	-	-	-	-	-	-	99	7	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18255	26	F	02	-	-	A GOU 1	2	-	-	-	-	9	-	99	99	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18252	26	F	02	-	-	A GOU 1	1	-	1880	1915	-	-	-	99	11	-	-	-	-	110	0	35	TOTAL UNIDENTIFIED GLASS/GENERAL	DATED MUNSEY 1970:55
18254	26	F	02	-	-	A GOU 1	2	-	-	-	-	-	-	99	1	-	-	-	-	110	0	35	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18253	26	F	02	-	-	A GOU 1	2	-	-	-	-	-	-	99	1	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18271	26	F	02	-	-	A PTE94	1	-	-	-	-	-	-	-	-	8	-	4	-	751	-	19	Pipe Bowls - Unidentified Shape with Spur	POSSIBLY BURNED
18256	26	F	02	-	-	A SAB 1	1	0.014	-	-	-	-	1	-	2	-	-	-	-	216	-	-	Brick	-
18257	26	F	02	-	-	A SAB20	1	0.018	-	-	-	-	101	-	2	-	-	-	-	216	-	-	Mortar	-
18258	26	F	02	-	-	A SAF 3	3	-	1830	-	-	-	42	-	2	-	-	-	-	212	-	-	Machine Cut Nail	-
18259	26	F	02	-	-	A SAF 7	10	-	-	-	-	-	42	-	2	-	-	-	-	212	-	-	Unidentified Nail	-
18260	26	F	02	-	-	A SAG 1	8	0.007	-	-	-	-	2	-	2	10	-	-	-	211	-	-	Modern Window Glass	-
18261	26	F	02	-	-	A SAG 8	2	0.001	-	1840	-	-	2	-	2	12	-	-	-	211	-	-	Crown Glass	-

ANCS#	CAT#	TKSCT	STP	OTHER	UNIT	STR	TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAR1	VAR3	VAR4	VAR5	VAR6	VAR7	VAR8	VAR9	VAR11	PATN	FUNCT	COMNTS	TRANSLATION	NOTE
18262	26	F	02	-	-	A	SAG11	3	0.003	1820	1926	-	2	-	2	10	-	-	-	-	211	-	-	Broad Glass	-
18263	26	F	02	-	-	A	SCF75	1	-	-	-	-	9	-	701	-	-	-	-	-	531	-	-	Bone Button	-
18264	26	F	02	-	-	A	SOS 1	3	-	-	-	-	42	-	2	-	-	-	-	-	-	-	-	Unidentified Metal	-
18265	26	F	02	-	-	A	SOS 3	1	-	-	-	-	2	-	2	-	-	-	-	-	-	-	-	Melted Glass	-
18266	26	F	02	-	-	A	SXA 1	1	0.002	-	-	-	107	-	2	-	-	-	-	-	863	-	-	Coal	-
18267	26	F	02	-	-	A	SXA 5	4	0.027	-	-	-	31	-	2	-	-	-	-	-	863	-	-	Slag	-
18268	26	F	02	-	-	A	SXK28	1	-	1850	1930	-	160	-	2	-	-	-	-	-	859	-	-	Porcelain Dolls (Molded)	ARM OR LEG ONLY, VERY SMALL.
18269	26	F	02	-	-	A	ZHZ 4	1	-	-	-	-	-	-	999	2	-	-	-	-	1199	-	-	Medium Mammal	-
18270	26	F	02	-	-	A	ZXF10	2	0.006	-	-	-	-	-	700	50	-	-	-	-	1197	-	-	Oyster	-
18276	27	F	02	-	-	B	CER 1	1	-	-	-	-	758	10	-	-	-	-	-	-	101	99	-	Redware - Unglazed	-
18272	27	F	02	-	-	B	CER62	1	-	-	-	-	750	710	-	-	-	-	-	-	101	99	-	Redware - Brown Glaze	-
18274	27	F	02	-	-	B	CRW 2	1	-	1820	1985	-	-	-	11	-	-	-	-	-	101	99	-	Whiteware - Plain	-
18273	27	F	02	-	-	B	CRW 2	2	-	1820	1985	-	-	-	10	-	-	-	-	-	101	99	-	Whiteware - Plain	-
18275	27	F	02	-	-	B	CRW 5	1	-	1830	1870	-	-	970	99	-	1	-	-	-	101	1	-	Whiteware - Plain Paneled	-
18276	27	F	02	-	-	B	CRW10	1	-	1820	1900	-	-	999	50	-	-	-	-	-	101	2	-	Whiteware - Shell Edge - Blue	RIM FRAGMENT.
18277	27	F	02	-	-	B	CRW25	1	-	1820	1985	-	-	999	12	-	-	-	-	-	101	99	-	Whiteware - Embossed Body Sherds	PEDESTAL FOOT.
18278	27	F	02	-	-	B	CSL11	1	-	1800	1940	-	-	-	710	-	-	-	-	-	101	99	-	Stoneware - Gray Salt Glazed w/ Albany Type Slip	-
18282	27	F	02	-	-	B	GBU 1	1	-	-	-	-	-	-	1	12	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18279	27	F	02	-	-	B	GBU 1	1	-	-	-	-	-	-	1	9	-	-	-	-	102	28	34	UNIDENTIFIED BOTTLE/GENERAL	-
18280	27	F	02	-	-	B	GBU 1	2	-	-	-	-	-	-	99	9	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18281	27	F	02	-	-	B	GBU 1	1	-	-	-	-	-	-	99	1	-	100	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18283	27	F	02	-	-	B	GOU 1	4	-	-	-	-	-	-	99	1	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18284	27	F	02	-	-	B	PTS 1	1	-	-	-	-	-	-	-	-	1	-	4	-	751	-	-	Pipe Stems - Measurable	-
18285	27	F	02	-	-	B	SAB 1	1	0.028	-	-	-	1	-	2	-	-	-	-	-	216	-	-	Brick	-
18286	27	F	02	-	-	B	SAF 3	3	-	1830	-	-	42	-	417	-	-	-	-	-	212	-	-	Machine Cut Nail	LARGE.
18287	27	F	02	-	-	B	SAF 3	4	-	1830	-	-	42	-	2	-	-	-	-	-	212	-	-	Machine Cut Nail	-

ANCS#	CAT#	TKSCT	STP	OTHER	UNIT	STR	TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAR1	VAR3	VAR4	VAR5	VAR6	VAR7	VAR8	VAR9	VAR11	FATN	FUNCT	COMMENTS	TRANSLATION	NOTE
18288	27	F	02	-	-	B	SAF 7	16	-	-	-	-	42	-	2	-	-	-	-	-	212	-	-	Unidentified Nail	-
18289	27	F	02	-	-	B	SAF23	1	-	-	-	-	42	-	1	-	-	-	-	-	212	-	-	Staple	-
18290	27	F	02	-	-	B	SAG11	3	0.002	1820	1926	-	2	-	2	11	-	-	-	-	211	-	-	Broad Glass	-
18291	27	F	02	-	-	B	SOS 1	3	-	-	-	-	42	-	2	-	-	-	-	-	-	-	-	Unidentified Metal	-
18292	27	F	02	-	-	B	SOS10	1	-	-	-	-	3	-	2	-	-	-	-	-	-	-	-	Rock/Stone	LARGE CHUNK OF IGNEOUS ROCK.
18293	27	F	02	-	-	B	SXA 1	2	0.033	-	-	-	107	-	2	-	-	-	-	-	863	-	-	Coal	-
18294	27	F	02	-	-	B	SXA 4	2	0.017	-	-	-	35	-	2	-	-	-	-	-	863	-	-	Cinder	-
18295	27	F	02	-	-	B	SXA 5	1	0.006	-	-	-	31	-	2	-	-	-	-	-	863	-	-	Slag	-
18297	28	G	01	-	-	A	CER 1	2	-	-	-	-	-	-	14	-	-	-	-	-	101	99	-	Redware - Unglazed	-
18298	28	G	01	-	-	A	CER30	1	-	-	-	-	-	-	10	-	-	-	-	-	101	99	-	Redware - Iberian Storage Jars	-
18299	28	G	01	-	-	A	CER60	1	-	-	-	-	752	10	-	-	-	-	-	-	101	99	-	Redware - Black Glaze (coarse body)	-
18300	28	G	01	-	-	A	CER62	4	-	-	-	-	753	10	-	-	-	-	-	-	101	99	-	Redware - Brown Glaze	-
18301	28	G	01	-	-	A	CPF10	1	-	-	-	-	102	16	-	-	-	-	-	-	101	99	-	Oriental Porcelain - Underglaze Blue - Miscellaneous Undated	MUTED BLUE DECORATION.
18302	28	G	01	-	-	A	CRC 2	3	-	1762	1820	-	-	-	14	-	-	-	-	-	101	99	-	Creamware - Plain	-
18303	28	G	01	-	-	A	CRP 2	2	-	1775	1840	-	-	-	14	-	-	-	-	-	101	99	-	Pearlware - Plain	-
18304	28	G	01	-	-	A	CRP35	1	-	1775	1820	-	-	19	14	-	-	-	-	-	101	99	-	Pearlware - Underglaze Handpainted - Blue	UNIDENTIFIED DESIGN, FLUTED BODY.
18305	28	G	01	-	-	A	CRP36	1	-	1795	1825	-	-	104	104	-	2	-	-	-	101	1	-	Pearlware - Underglaze Handpainted - Polychrome	-
18306	28	G	01	-	-	A	CRP50	2	-	1800	1840	-	-	999	10	-	-	-	-	-	101	99	-	Pearlware - Transfer Printed - Blue, with Stipple	-
18307	28	G	01	-	-	A	CKW 2	5	-	1820	1985	-	-	-	14	-	-	-	-	-	101	99	-	Whiteware - Plain	-
18308	28	G	01	-	-	A	CRY60	1	-	1827	1940	-	-	50	10	-	-	-	-	-	101	99	-	Yellowware - Dipped - General	-
18309	28	G	01	-	-	A	GBA 3	1	-	-	-	-	-	-	99	5	-	-	-	-	102	21	-	WINE/LIQUOR BOTTLE	-
18310	28	G	01	-	-	A	GBU 1	1	-	-	-	-	-	-	1	7	-	999	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18315	28	G	01	-	-	A	GBU 1	1	-	-	-	-	-	-	1	1	-	999	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18312	28	G	01	-	-	A	GBU 1	1	-	-	-	-	-	-	1	1	99	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18311	28	G	01	-	-	A	GBU 1	2	-	-	-	-	-	-	99	9	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	(3) VESSELS REPRESENTED.

ANCS#	CAT#	TKSCT	STP	OTHER	UNIT	STR	TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAR1	VAR3	VAR4	VAR5	VAR6	VAR7	VAR8	VAR9	VAR11	PATN	FUNCT	COMNTS	TRANSLATION	NOTE
18314	28	G	01	-	-	A	GBU 1	1	-	-	-	-	-	-	1	1	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18316	28	G	01	-	-	A	GBU 1	3	-	-	-	-	-	-	99	7	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18316	28	G	01	-	-	A	GOU 1	4	-	-	-	-	-	-	99	1	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18317	28	G	01	-	-	A	GOU 1	1	-	-	-	-	-	-	99	1	-	-	-	-	110	0	35	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18318	28	G	01	-	-	A	SAB 1	17	0.048	-	-	-	1	-	2	-	-	-	-	-	216	-	-	Brick	-
18319	28	G	01	-	-	A	SAF 3	4	-	1830	-	-	42	-	417	-	-	-	-	-	212	-	-	Machine Cut Nail	-
18320	28	G	01	-	-	A	SAF 3	9	-	1830	-	-	42	-	2	-	-	-	-	-	212	-	-	Machine Cut Nail	-
18321	28	G	01	-	-	A	SAF 7	3	-	-	-	-	42	-	2	-	-	-	-	-	212	-	-	Unidentified Nail	-
18322	28	G	01	-	-	A	SAG 1	2	0.001	-	-	-	2	-	2	10	-	-	-	-	211	-	-	Modern Window Glass	-
18323	28	G	01	-	-	A	SAG 8	1	0.001	-	1840	-	2	-	2	12	-	-	-	-	211	-	-	Crown Glass	-
18324	28	G	01	-	-	A	SAG11	4	0.002	1820	1926	-	2	-	2	11	-	-	-	-	211	-	-	Broad Glass	-
18325	28	G	01	-	-	A	SOS 1	2	-	-	-	-	42	-	2	-	-	-	-	-	-	-	-	Unidentified Metal	-
18326	28	G	01	-	-	A	SXA 4	2	0.014	-	-	-	107	-	2	-	-	-	-	-	863	-	-	Cinder	-
18327	28	G	01	-	-	A	SXA 5	5	0.026	-	-	-	35	-	2	-	-	-	-	-	863	-	-	Slag	-
18328	28	G	01	-	-	A	ZMD35	1	-	-	-	-	8	-	89	3	-	-	-	-	1197	-	-	Sheep	ACETABULAR
18330	28	G	01	-	-	A	ZMD35	1	-	-	-	-	15	101	11	-	-	-	-	-	1197	-	-	Sheep	-
18331	28	G	01	-	-	A	ZMD35	1	-	-	-	-	3	-	112	2	-	-	-	-	1197	-	-	Sheep	-
18329	28	G	01	-	-	A	ZMD35	1	-	-	-	-	-	-	34	2	-	-	-	-	1197	-	-	Sheep	-
18332	28	G	01	-	-	A	ZMD60	2	-	-	-	-	8	15	102	7	-	-	-	-	1197	-	-	Pig	-
18333	28	G	01	-	-	A	ZMZ 4	1	-	-	-	-	-	-	999	2	4	-	-	-	1199	-	-	Medium Mammal	-
18335	28	G	01	-	-	A	ZMZ 4	3	-	-	-	-	-	-	999	2	-	-	-	-	1199	-	-	Medium Mammal	-
18334	28	G	01	-	-	A	ZMZ 4	1	-	-	-	-	-	-	30	2	-	-	-	-	1199	-	-	Medium Mammal	-
18336	28	G	01	-	-	A	ZMZ 5	1	-	-	-	-	-	-	16	2	-	-	-	-	1199	-	-	Large Mammal	-
18337	28	G	01	-	-	A	ZXP10	-	0.005	-	-	-	-	-	700	2	-	-	-	-	1197	-	-	Oyster	-
18338	28	G	01	-	-	A	ZXP10	2	0.003	-	-	-	-	-	700	1	-	-	-	-	1197	-	-	Oyster	-
18339	28	G	01	-	-	A	ZXP25	1	0.002	-	-	-	-	-	700	50	-	-	-	-	1197	-	-	Clam	-
18340	29	G	01	-	-	B	PTS 1	1	-	-	-	-	-	-	-	-	3	-	5	-	751	-	-	Pipe Stems - Measurable	-

ANCS#	LAT#	TR SCT	STP	OTHER	UNIT	STR TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAR1	VAR3	VAR4	VAR5	VAR6	VAR7	VAR8	VAR9	VAR11	PATN	FUNCT	COMNTS	TRANSLATION	NOTE
18341	29	G	01	-	-	B PTS 1	1	-	-	-	-	-	-	-	-	8	-	4	-	751	-	-	Pipe Stems - Measurable	-
18342	29	G	01	-	-	B ZMZ 4	2	-	-	-	-	-	-	999	2	-	-	1	-	1199	-	-	Medium Makkal	-
18343	30	G	02	-	-	A CER 1	1	-	-	-	-	-	-	14	-	-	-	-	-	101	99	-	Redware - Unglazed	SPALL.
18344	30	G	02	-	-	A CER60	2	-	-	-	-	-	752	10	-	-	-	-	-	101	99	-	Redware - Black Glaze (coarse body)	-
18345	30	G	02	-	-	A CER62	1	-	-	-	-	-	753	10	-	-	-	-	-	101	99	-	Redware - Brown Glaze	-
18346	30	G	02	-	-	A CPF10	2	-	-	-	-	-	19	114	-	4	-	-	-	101	1	69	Oriental Porcelain - Underglaze Blue - Miscellaneous Undated	SMALL, SAKI-SIZED CUP, CRUDELY-DRAWN OVERALL FLORAL DESIGN UNDER HAZY GLAZE, PROBABLY RECENT OR POSSIBLY AN OLDER PROVINCIAL KILN.
18347	30	G	02	-	-	A CRC 2	1	-	1800	1840	-	-	-	16	-	-	-	-	-	101	99	-	Creamware - Plain	LATE - CC.
18348	30	G	02	-	-	A CRC 2	2	-	1762	1820	-	-	-	14	-	-	-	-	-	101	99	-	Creamware - Plain	-
18350	30	G	02	-	-	A CRW 2	1	-	1820	1985	-	-	-	10	-	-	-	-	-	101	99	-	Whiteware - Plain	-
18349	30	G	02	-	-	A CRW 2	1	-	1820	1985	-	-	-	14	-	-	-	-	-	101	99	-	Whiteware - Plain	-
18351	30	G	02	-	-	A CRV76	1	-	1812	1920	-	-	-	10	-	-	-	-	-	101	99	-	Yellowware - Rockingham Type Glaze	-
18352	30	G	02	-	-	A GOU 1	1	-	-	-	-	-	-	99	1	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18353	30	G	02	-	-	A GOU 1	1	-	-	-	-	9	-	99	9	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18354	30	G	02	-	-	A SAB 1	8	0.017	-	-	-	2	-	2	-	-	-	-	-	216	-	-	Brick	-
18355	30	G	02	-	-	A SAB20	1	0.002	-	-	-	101	-	2	-	-	-	-	-	216	-	-	Mortar	-
18356	30	G	02	-	-	A SAF 3	1	-	1830	-	-	42	-	417	-	-	-	-	-	212	-	-	Machine Cut Nail	-
18357	30	G	02	-	-	A SAF 3	4	-	1830	-	-	42	-	2	-	-	-	-	-	212	-	-	Machine Cut Nail	-
18358	30	G	02	-	-	A SAC 8	1	0.001	-	1840	-	2	-	2	12	-	-	-	-	211	-	-	Crown Glass	-
18359	30	G	02	-	-	A SOS12	2	-	1839	-	-	13	-	2	-	-	-	-	-	-	-	-	Rubber	TWO RED FRAGMENTS.
18360	30	G	02	-	-	A SOS13	2	-	-	-	-	14	-	2	-	-	-	-	-	-	-	-	Plastic	PLASTIC SHEET.
18361	30	G	02	-	-	A SXA 1	2	0.002	-	-	-	107	-	2	-	-	-	-	-	863	-	-	Coal	-
18362	30	G	02	-	-	A SXA 4	4	0.022	-	-	-	35	-	2	-	-	-	-	-	863	-	-	Cinder	-
18363	30	G	02	-	-	A SXA 5	4	0.015	-	-	-	31	-	2	-	-	-	-	-	863	-	-	Slag	-
18364	30	G	02	-	-	A ZMD70	1	-	-	-	-	1	-	100	8	-	-	-	-	1197	-	-	Cow	-
18365	30	G	02	-	-	A ZMZ 4	1	-	-	-	-	-	-	999	2	-	-	-	-	1199	-	-	Medium Makkal	-

ANCS#	CAT#	TRCCT	STP	OTHEK	UNIT	STR	TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAK1	VAK3	VAK4	VAK5	VAK6	VAK7	VAK8	VAK9	VAK11	PATN	FUNCT	COMNTS	TRANSLATION	NOTE
18366	30	G	02	-	-	A	ZMZ 4	1	-	-	-	-	-	-	120	2	-	-	-	-	1199	-	-	Medium Mammal	-
18367	31	H	01	-	-	A	CEH98	1	-	-	-	-	-	19	10	-	-	-	-	-	101	99	-	Buff White Bodied - Other	FAIRLY REFINED BODY, CLEAR GLAZE INTERIOR, DARK BROWN VERY LUSTROUS GLAZE EXTERIOR.
18368	31	H	01	-	-	A	CRP 2	1	-	1775	1840	-	-	-	12	-	-	-	-	-	101	99	-	Pearlware - Plain	-
18369	31	H	01	-	-	A	CRW 2	6	-	1820	1985	-	-	-	14	-	-	-	-	-	101	99	-	Whiteware - Plain	-
18370	31	H	01	-	-	A	GBU 1	2	-	-	-	-	-	-	99	7	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18373	31	H	01	-	-	A	GBU 1	1	-	-	-	-	-	-	1	1	-	-	-	9999	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	ILLEGIBLE EMBOSSEMENT
18374	31	H	01	-	-	A	GBU 1	4	-	-	-	-	-	-	1	1	-	-	-	-	102	28	34	UNIDENTIFIED BOTTLE/GENERAL	-
18371	31	H	01	-	-	A	GBU 1	1	-	-	-	-	-	-	1	9	-	999	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18372	31	H	01	-	-	A	GBU 1	1	-	-	-	-	-	-	1	1	-	999	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18375	31	H	01	-	-	A	GBU 1	1	-	-	-	-	-	-	1	1	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18378	31	H	01	-	-	A	GOU 1	2	-	-	-	-	-	-	99	1	-	-	-	-	110	0	35	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18377	31	H	01	-	-	A	GOU 1	4	-	-	-	-	-	-	99	1	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18376	31	H	01	-	-	A	GOU 1	3	-	1880	1915	-	-	-	99	11	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	DATED MUMSEY 1970-55
18379	31	H	01	-	-	A	SAB 1	10	0.044	-	-	-	1	-	2	-	-	-	-	-	216	-	-	Brick	-
18380	31	H	01	-	-	A	SAF 3	1	-	1830	-	-	42	-	2	-	-	-	-	-	212	-	-	Machine Cut Nail	-
18381	31	H	01	-	-	A	SAF 6	2	-	1850	-	-	42	-	2	-	-	-	-	-	212	-	-	Wire Nail	-
18382	31	H	01	-	-	A	SAF 7	5	-	-	-	-	42	-	2	-	-	-	-	-	212	-	-	Unidentified Nail	-
18383	31	H	01	-	-	A	SAG 8	2	0.001	-	1840	-	2	-	2	12	-	-	-	-	211	-	-	Crown Glass	-
18384	31	H	01	-	-	A	SAG11	10	0.005	1820	1926	-	2	-	2	11	-	-	-	-	211	-	-	Broad Glass	-
18385	31	H	01	-	-	A	SOS 1	4	-	-	-	-	42	-	2	-	-	-	-	-	-	-	-	Unidentified Metal	-
18386	31	H	01	-	-	A	SXA 1	4	0.005	-	-	-	107	-	2	-	-	-	-	-	863	-	-	Coal	-
18387	31	H	01	-	-	A	SXA 4	5	0.011	-	-	-	35	-	2	-	-	-	-	-	863	-	-	Cinder	-
18388	31	H	01	-	-	A	SXA 5	1	0.001	-	-	-	31	-	2	-	-	-	-	-	863	-	-	Slag	-
18389	31	H	01	-	-	A	ZMZ 5	1	-	-	-	-	-	-	999	2	-	-	-	-	1199	-	-	Large Mammal	-
18390	32	H	01	-	-	B	CRC 2	1	-	1762	1820	-	-	-	14	-	-	-	-	-	101	99	-	Creamware - Plain	-
18391	32	H	01	-	-	B	SAB 1	3	0.001	-	-	-	1	-	2	-	-	-	-	-	216	-	-	Brick	-

AMCS#	CAT#	TRCST	STP	OTHER	UNIT	STR TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAR1	VAR3	VAR4	VAR5	VAR6	VAR7	VAR8	VAR9	VAR11	PATN	FUNCT	COMMENTS	TRANSLATION	NOTE
18392	32	H	01	-	-	B SAG11	1	0.001	1820	1926	-	2	-	2	11	-	-	-	-	211	-	-	Broad Glass	-
18393	32	H	01	-	-	B SXA 1	1	0.005	-	-	-	107	-	2	-	-	-	-	-	863	-	-	Coal	-
18394	33	H	02	-	-	A CER60	1	-	-	-	-	-	999	14	-	-	-	-	-	101	99	-	Redware - Black Glaze (coarse body)	-
18395	33	H	02	-	-	A CKW90	2	-	1900	1985	999	-	19	99	-	-	-	-	-	101	1	-	Whiteware - Other 20th Century	BASE SHEED; OVERALL PINK GLAZE; STAMPED MARK ON BASE "...AMV" - PROBABLY GERMANY
18396	33	H	02	-	-	A CRY 2	1	-	1827	1940	-	-	-	14	-	-	-	-	-	101	99	-	Yellowware - Plain	-
18397	33	H	02	-	-	A GEA 3	1	-	-	-	-	-	-	99	5	-	-	-	-	102	21	-	WINE/LIQUOR BOTTLE	-
18398	33	H	02	-	-	A GBU 1	1	-	-	-	-	-	-	99	7	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18401	33	H	02	-	-	A GBU 1	1	-	-	-	-	-	-	1	1	-	-	-	-	102	28	34	UNIDENTIFIED BOTTLE/GENERAL	-
18402	33	H	02	-	-	A GBU 1	1	-	-	-	-	-	-	1	1	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18399	33	H	02	-	-	A GBU 1	3	-	-	-	-	-	-	1	9	-	147	-	-	102	28	34	UNIDENTIFIED BOTTLE/GENERAL	-
18400	33	H	02	-	-	A GBU 1	2	-	-	-	-	-	-	99	9	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18403	33	H	02	-	-	A GBU 1	1	-	-	-	-	-	9999	1	1	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18406	33	H	02	-	-	A GOU 1	9	-	-	-	-	-	-	99	1	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18405	33	H	02	-	-	A GOU 1	1	-	1880	1915	-	-	-	99	11	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	DATED MUMSEY 1970-55
18404	33	H	02	-	-	A GOU 1	4	-	-	-	-	-	-	99	1	-	128	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	POSSIBLE TUMBLER
18407	33	H	02	-	-	A GOU 1	1	-	-	-	-	-	-	99	1	-	-	-	-	110	0	35	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18408	33	H	02	-	-	A SAG 1	3	0.003	-	-	-	1	-	2	-	-	-	-	-	216	-	-	Brick	-
18409	33	H	02	-	-	A SAF 6	2	-	1850	-	-	42	-	417	-	-	-	-	-	212	-	-	Wire Nail	-
18410	33	H	02	-	-	A SAF 7	8	-	-	-	-	42	-	2	-	-	-	-	-	212	-	-	Unidentified Nail	-
18411	33	H	02	-	-	A SAF 9	1	-	-	-	-	42	-	2	-	-	-	-	-	212	-	-	Roofing Nail	-
18412	33	H	02	-	-	A SAG 8	1	0.001	-	1840	-	2	-	2	12	-	-	-	-	211	-	-	Crown Glass	-
18413	33	H	02	-	-	A SAG11	4	0.003	1820	1926	-	2	-	2	11	-	-	-	-	211	-	-	Broad Glass	-
18414	33	H	02	-	-	A SXA 1	1	0.001	-	-	-	107	-	2	-	-	-	-	-	863	-	-	Coal	-
18415	33	H	02	-	-	A SXA 4	5	0.014	-	-	-	35	-	2	-	-	-	-	-	863	-	-	Cinder	-
18416	33	H	02	-	-	A SXA 5	1	0.022	-	-	-	31	-	2	-	-	-	-	-	863	-	-	Slag	-
18417	33	H	02	-	-	A ZM2 2	2	-	-	-	-	-	-	38	2	4	-	-	-	1199	-	-	Small Mammal	-

ANCS#	CAT#	TKSCT	STP	OTHER	UNIT	STR	TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAK1	VAK3	VAK4	VAK5	VAK6	VAK7	VAK8	VAK9	VAK11	PATN	FUNCT	COMMENTS	TRANSLATION	NOTE
18418	34	H	02	-	-	B	CRC 2	1	-	1762	1820	-	-	-	707	-	-	-	-	-	101	99	-	Creamware - Plain	FOOT RING.
18419	34	H	02	-	-	B	SAB 1	2	0.007	-	-	-	1	2	-	-	-	-	-	-	216	-	-	Brick	-
18420	35	I	01	-	-	A	CEK 1	3	-	-	-	-	-	758	10	-	-	-	-	-	101	99	-	Redware - Unglazed	-
18421	35	I	01	-	-	A	CEK62	1	-	-	-	-	-	750	10	-	-	-	-	-	101	99	-	Redware - Brown Glaze	-
18422	35	I	01	-	-	A	CEK63	1	-	-	-	-	-	752	10	-	-	-	-	-	101	99	-	Redware - Light Brown Glaze	-
18423	35	I	01	-	-	A	CRC 2	2	-	1762	1820	-	-	-	14	-	-	-	-	-	101	99	-	Creamware - Plain	-
18424	35	I	01	-	-	A	CRK52	2	-	-	-	-	-	19	701	-	-	-	-	-	101	99	-	Thin Red Body - Clear Lead Glaze	THIN WHITE LINE AROUND RIM; THIN BODY
18425	35	I	01	-	-	A	CRP 2	4	-	1775	1840	-	-	-	14	-	-	-	-	-	101	99	-	Pearlware - Plain	POSSIBLY ASTEUKY WARE
18426	35	I	01	-	-	A	GOU 1	7	-	-	-	-	-	-	99	1	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18427	35	I	01	-	-	A	PTE98	1	-	-	-	-	-	-	-	1	-	-	-	1	751	-	-	Pipe Bowls - Unidentified Shape Bowl	-
18428	35	I	01	-	-	A	PTS 1	1	-	-	-	-	-	-	-	5	-	-	-	5	751	-	-	Pipe Stems - Measurable	-
18429	35	I	01	-	-	A	SAB 1	10	0.059	-	-	-	1	2	-	-	-	-	-	-	216	-	-	Brick	-
18430	35	I	01	-	-	A	SAF 7	3	-	-	-	-	42	2	-	-	-	-	-	-	212	-	-	Unidentified Nail	-
18431	35	I	01	-	-	A	ZXP 1	-	0.001	-	-	-	-	-	700	2	-	-	-	-	1197	-	-	Oyster/Clam	-
18432	36	I	01	-	-	B	CRK52	4	-	-	-	-	-	19	700	-	-	-	-	-	101	99	-	Thin Red Body - Clear Lead Glaze	PROBABLY PART OF VESSEL IN STRATUM A, VERY THIN BODY.
18433	36	I	01	-	-	B	CSL 2	1	-	-	-	-	-	680	10	-	-	-	-	-	101	99	-	Stoneware - Plain - Gray Salt Glazed	-
18434	36	I	01	-	-	B	SAB 1	1	0.002	-	-	-	1	2	-	-	-	-	-	-	216	-	-	Brick	-
18435	36	I	01	-	-	B	SAF 3	1	-	1830	-	-	42	2	-	-	-	-	-	-	212	-	-	Machine Cut Nail	-
18437	37	I	02	-	-	A	CEK 1	2	-	-	-	-	-	10	-	-	-	-	-	-	101	99	69	Redware - Unglazed	-
18436	37	I	02	-	-	A	CEK 1	1	-	-	-	-	-	14	-	-	-	-	-	-	101	99	-	Redware - Unglazed	-
18439	37	I	02	-	-	A	CEK62	1	-	-	-	-	-	753	10	-	-	-	-	-	101	99	-	Redware - Brown Glaze	-
18438	37	I	02	-	-	A	CEK62	1	-	-	-	-	-	750	10	-	-	-	-	-	101	99	-	Redware - Brown Glaze	-
18440	37	I	02	-	-	A	CRC 2	5	-	1762	1820	-	-	-	14	-	-	-	-	-	101	99	-	Creamware - Plain	-
18441	37	I	02	-	-	A	CRD11	1	-	1640	1800	-	-	999	10	-	-	-	-	-	101	99	98	Delftware - White Glaze w/ Blue Decoration - General	-
18442	37	I	02	-	-	A	CRW 2	1	-	1820	1985	-	-	-	15	-	-	-	-	-	101	99	-	Whiteware - Plain	-

ANCS#	CAT#	TRSCT	STP	OTHER	UNIT	STR	TYPE	COUNT	WEIGHT	BEGDATE	EMDDATE	VAK1	VAK3	VAK4	VAK5	VAK6	VAK7	VAK8	VAK9	VAK11	PATN	FUNCT	COMNTS	TRANSLATION	NOTE
18443	37	I	02	-	-	A	CSL11	3	-	1800	1940	-	-	-	10	-	-	-	-	-	101	99	-	Stoneware - Gray Salt Glazed w/ Albany Type Slip	-
18444	37	I	02	-	-	A	CSL11	1	-	1800	1940	-	-	628	10	-	-	-	-	-	101	99	-	Stoneware - Gray Salt Glazed w/ Albany Type Slip	VERY LUSTROUS SLIP/GLAZE
18445	37	I	02	-	-	A	GBA 3	1	-	-	-	-	-	-	99	5	-	-	-	-	102	21	-	WINE/LIQUOR BOTTLE	-
18446	37	I	02	-	-	A	GBU 1	1	-	-	-	-	-	-	99	3	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18447	37	I	02	-	-	A	GOU 1	1	-	-	-	-	-	-	99	1	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18448	37	I	02	-	-	A	PTS 1	1	-	-	-	-	-	-	-	-	3	-	6	-	751	-	-	Pipe Stems - Measurable	-
18449	37	I	02	-	-	A	SAB 1	5	0.006	-	-	-	1	-	2	-	-	-	-	-	216	-	-	Brick	-
18451	37	I	02	-	-	A	SAF 3	3	-	1830	-	-	42	-	2	-	-	-	-	-	212	-	-	Machine Cut Nail	-
18450	37	I	02	-	-	A	SAF 3	1	-	1830	-	-	42	-	417	-	-	-	-	-	212	-	-	Machine Cut Nail	-
18452	37	I	02	-	-	A	SOS10	1	-	-	-	-	110	-	2	-	-	-	-	-	-	-	-	Rock/Stone	-
18453	37	I	02	-	-	A	SOS12	1	-	1839	-	-	13	-	2	-	-	-	-	-	-	-	-	Rubber	WHITE DECAYED FRAGMENT
18454	37	I	02	-	-	A	SXA 4	6	0.024	-	-	-	35	-	2	-	-	-	-	-	863	-	-	Cinder	-
18455	37	I	02	-	-	A	ZBZ 1	1	-	-	-	-	-	-	106	5	-	-	-	-	1199	-	-	Unidentified Bird	-
18456	39	I	03	-	-	B	CER51	1	-	-	-	-	753	10	-	-	-	-	-	-	101	99	-	Redware - Streaked Body Brown/Black Glaze	POSSIBLY BUCKLEY WARE
18457	39	I	03	-	-	A	CER 1	1	-	-	-	-	-	10	-	-	-	-	-	-	101	99	-	Redware - Unglazed	-
18458	39	I	03	-	-	A	CER 1	1	-	-	-	-	-	12	-	-	-	-	-	-	101	99	-	Redware - Unglazed	-
18459	39	I	03	-	-	A	CER60	1	-	-	-	-	752	10	-	-	-	-	-	-	101	99	-	Redware - Black Glaze (coarse body)	-
18460	39	I	03	-	-	A	CER62	2	-	-	-	-	750	10	-	-	-	-	-	-	101	99	-	Redware - Brown Glaze	-
18461	39	I	03	-	-	A	CER63	1	-	-	-	-	750	10	-	-	-	-	-	-	101	99	-	Redware - Light Brown Glaze	-
18491	39	I	03	-	-	A	CER64	1	-	-	-	-	750	710	-	-	-	-	-	-	101	99	-	Redware - Olive Glaze	-
18462	39	I	03	-	-	A	CER98	1	-	-	-	-	19	10	-	-	-	-	-	-	101	99	-	Redware - Other	FRAGMENT; TRACES OF MATTE BROWN.
18463	39	I	03	-	-	A	CRC 2	1	-	1800	1840	-	-	-	16	-	-	-	-	-	101	99	-	Creamware - Plain	LATE, CC WARE PROBABLY.
18464	39	I	03	-	-	A	CRD98	1	-	-	-	-	19	14	-	-	-	-	-	-	101	99	-	Other Delftware	SOFT, DARK BUFF BODY; THE GLAZE IS AN OPAQUE LIGHT GRAY THAT LOOKS LIKE MAIOLICA BUT IS ON BOTH SURFACES.

AMCS#	CAT#	TRCST	STP	OTHER	UNIT	STR	TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAK1	VAK3	VAK4	VAK5	VAK6	VAK7	VAK8	VAK9	VAK11	PATN	FUNCT	COMNTS	TRANSLATION	NOTE
18465	39	I	03	-	-	A	CRF 2	17	-	1775	1840	-	-	-	14	-	1	-	-	-	101	99	60	Pearlware - Plain	QUITE POSSIBLY SMALL SHERDS OF ONE PLATE
18466	39	I	03	-	-	A	CRW 2	3	-	1820	1985	-	-	-	14	-	-	-	-	-	101	99	-	Whiteware - Plain	-
18467	39	I	03	-	-	A	CRW 2	2	-	1820	1985	-	-	-	15	-	-	-	-	-	101	99	-	Whiteware - Plain	-
18468	39	I	03	-	-	A	CRV76	1	-	1812	1920	-	-	-	710	-	-	-	-	-	101	99	-	Yellowware - Rockingham Type Glaze	-
18469	39	I	03	-	-	A	GBA 3	1	-	-	-	-	-	-	99	5	-	-	-	-	102	21	-	WINE/LIQUOR BOTTLE	-
18471	39	I	03	-	-	A	GBU 1	1	-	-	-	-	-	-	1	1	-	-	-	9999	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	EMBOSSED "... K. "
18470	39	I	03	-	-	A	GBU 1	4	-	-	-	-	-	-	99	9	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18472	39	I	03	-	-	A	GBU 1	1	-	-	-	-	-	-	99	1	-	999	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18473	39	I	03	-	-	A	GBU 1	1	-	-	-	-	-	-	99	7	-	-	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	-
18474	39	I	03	-	-	A	GLL21	1	-	-	-	-	-	-	17	1	12	-	-	-	321	32	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18475	39	I	03	-	-	A	GOU 1	6	-	-	-	-	-	-	99	1	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18476	39	I	03	-	-	A	SAB 1	6	0.021	-	-	-	-	1	2	-	-	-	-	-	216	-	-	Brick	-
18477	39	I	03	-	-	A	SAB20	4	0.005	-	-	-	101	-	2	-	-	-	-	-	216	-	-	Mortar	-
18478	39	I	03	-	-	A	SAF 3	2	-	1830	-	-	42	-	2	-	-	-	-	-	212	-	-	Machine Cut Nail	-
18479	39	I	03	-	-	A	SAF 6	3	-	1850	-	-	42	-	417	-	-	-	-	-	212	-	-	Wire Nail	-
18480	39	I	03	-	-	A	SAF 7	8	-	-	-	-	42	-	2	-	-	-	-	-	212	-	-	Unidentified Nail	-
18481	39	I	03	-	-	A	SAG 1	1	0.001	-	-	-	2	-	2	10	-	-	-	-	211	-	-	Modern Window Glass	-
18482	39	I	03	-	-	A	SAG11	8	0.009	1820	1926	-	2	-	2	11	-	-	-	-	211	-	-	Broad Glass	-
18486	39	I	03	-	-	A	SCZ98	1	-	-	-	-	46	-	1	-	-	-	-	-	534	-	-	Misc. Shoe Part	PROBABLY A SHOELACE EYELET.
18483	39	I	03	-	-	A	SOS 1	1	-	-	-	-	42	-	2	-	-	-	-	-	-	-	-	Unidentified Metal	-
18484	39	I	03	-	-	A	SXA 4	2	0.007	-	-	-	35	-	2	-	-	-	-	-	863	-	-	Cinder	-
18485	39	I	03	-	-	A	SXH98	1	-	-	-	-	42	-	2	-	-	-	-	-	890	-	-	Miscellaneous Hardware	POSSIBLY A BUCKLE
18487	39	I	03	-	-	A	ZMZ 4	1	-	-	-	-	-	-	120	2	-	-	-	-	1199	-	-	Medium Mammal	-
18488	39	I	03	-	-	A	ZMZ 5	1	-	-	-	-	-	-	999	2	-	-	-	-	1199	-	-	Large Mammal	-
18489	39	I	03	-	-	A	ZXP10	1	0.011	-	-	-	-	-	700	1	-	-	-	-	1197	-	-	Oyster	-
-	40	I	03	-	-	B	CEK60	1	-	-	-	-	-	752	12	-	-	-	-	-	101	99	-	Redware - Black Glaze (coarse body)	FOOT RING.

AMCS#	CAT#	TR SCT	STP	OTHER	UNIT	STR TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAR1	VAR3	VAR4	VAR5	VAR6	VAR7	VAR8	VAR9	VAR11	PATN	FUNCT	COMMENTS	TRANSLATION	NOTE
18490	40	I	03	-	-	B CER60	3	-	-	-	-	-	752	130	-	-	-	-	-	101	2	69	Redware - Black Glaze (coarse body)	BASE; TRIMMED TO A SHARP EDGE.
18492	40	I	03	-	-	B CER61	1	-	-	-	-	-	752	10	-	-	-	-	-	101	99	-	Redware - Dark Brown Glaze	-
18493	40	I	03	-	-	B CER62	3	-	-	-	-	-	750	710	-	-	-	-	-	101	99	-	Redware - Brown Glaze	-
18494	40	I	03	-	-	B CER62	1	-	-	-	-	-	752	130	-	-	-	-	-	101	2	-	Redware - Brown Glaze	BASE SHEED; THINNED/ HOLLOWED OUT ON THE INTERIOR OF THE BASE, LOTS OF STIR MARKS.
18495	40	I	03	-	-	B CER63	1	-	-	-	-	-	752	10	-	-	-	-	-	101	99	-	Redware - Light Brown Glaze	-
18496	40	I	03	-	-	B CER63	1	-	-	-	-	-	752	306	-	-	-	-	-	101	4	-	Redware - Light Brown Glaze	BULBOUS BODY; RIM SHEED
18497	40	I	03	-	-	B CER64	1	-	-	-	-	-	750	710	-	-	-	-	-	101	99	-	Redware - Olive Glaze	-
18498	40	I	03	-	-	B CES 2	1	-	1670	1850	-	-	999	14	-	-	-	-	-	101	99	-	Red Bodied Slipware - Trailed - General	GLAZED INTERIOR ONLY-FISH ?
18499	40	I	03	-	-	B CES 2	1	-	1670	1850	-	-	19	306	-	-	-	-	-	101	4	-	Red Bodied Slipware - Trailed - General	VERY BULBOUS BODY; EVERTED DOWN SLOPING RIM; SQUIGGLY LINE OF SLIP; INCISED LINES AROUND BODY.
18500	40	I	03	-	-	B CFT 2	1	-	1720	1805	-	-	-	14	-	-	-	-	-	101	99	-	Stoneware White Salt Glazed - Plain	-
18501	40	I	03	-	-	B CRC 2	4	-	1762	1820	-	-	-	14	-	-	-	-	-	101	99	-	Creamware - Plain	-
18502	40	I	03	-	-	B CRC20	1	-	1762	1800	-	-	909	50	-	2	-	-	-	101	2	-	Creamware - Other Embossed Rim	-
18503	40	I	03	-	-	B CRD11	1	-	1640	1800	-	-	999	10	-	-	-	-	-	101	99	-	Delftware - White Glaze w/ Blue Decoration - General	-
18504	40	I	03	-	-	B CRP 2	1	-	1775	1840	-	-	-	14	-	-	-	-	-	101	99	-	Pearlware - Plain	-
18505	40	I	03	-	-	B CRP60	1	-	1790	1890	-	-	803	10	-	-	-	-	-	101	99	-	Pearlware - Dipped - General	WHITE, YELLOW, DARK & LIGHT BROWN SLIPS
18506	40	I	03	-	-	B GBA 3	7	-	-	-	-	-	-	99	5	-	-	-	-	102	21	-	WINE/LIQUOR BOTTLE	-
18507	40	I	03	-	-	B GOU 1	1	-	-	-	-	-	-	99	1	-	-	-	-	110	0	-	TOTAL UNIDENTIFIED GLASS/GENERAL	-
18508	40	I	03	-	-	B SAF 3	6	-	1830	-	-	-	42	-	2	-	-	-	-	212	-	-	Machine Cut Nail	-
18509	40	I	03	-	-	B SAF 7	7	-	-	-	-	-	42	-	2	-	-	-	-	212	-	-	Unidentified Nail	-
18510	40	I	03	-	-	B SOS 1	1	-	-	-	-	-	42	-	2	-	-	-	-	-	-	-	Unidentified Metal	-
18511	40	I	03	-	-	B SXA 5	1	0.013	-	-	-	-	31	-	2	-	-	-	-	863	-	-	Slag	-
18512	40	I	03	-	-	B ZND35	1	-	-	-	-	-	8	-	32	3	-	-	-	1197	-	-	Sheep	-

ANCS#	CAT#	TR SCT	STP	OTHER	UNIT	STR TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAK1	VAK3	VAK4	VAK5	VAK6	VAK7	VAK8	VAK9	VAK11	PAID	FUNCT	COMNTS	TRANSLATION	NOTE
18513	40	I	03	-	-	B ZMD70	3	-	-	-	-	8	-	100	9	-	-	-	-	1197	-	-	Cow	-
18514	40	I	03	-	-	B ZM2 1	2	-	-	-	-	-	-	999	2	-	-	1	-	1199	-	-	Unidentified Mammal	-
18515	40	I	03	-	-	B ZM2 4	1	-	-	-	-	-	-	999	2	-	-	-	-	1199	-	-	Medium Mammal	-
18325	40	I	03	-	-	B ZM2 5	1	-	-	-	-	-	-	120	2	-	-	-	-	1199	-	-	Large Mammal	-
17888	6	-	-	BCKDIRT	TP-1	- CK1 2	2	-	1880	1904	19	-	-	75	-	-	-	-	-	101	2	-	Ironstone - Plain	BASE; MARK READS "...ANTED/IRONSTONE CHINA/... TAYLOR & CO/ENGLAND". PROBABLY MELLOR, TAYLOR & Co (GODDEN 1964: 432 # 2647) (MARK SHOWN HAS "ENGLAND" ALSO).
18516	6	-	-	BCKDIRT	TP-1	- SDA17	1	-	-	-	-	9	-	35	-	-	-	-	-	104	-	-	Utensil - General	-
17885	4	-	-	-	TP-2	A CER 1	1	-	-	-	-	-	-	520	-	6	-	-	-	856	8	-	Redware - Unglazed	ROUGHLY 7" IN DIAMETER AT WIDEST POINT, A GLOBULAR FLOWER POT THAT TAPERS FROM THE RIM, VERY MICACEOUS BODY.
17884	4	-	-	-	TP-2	A SDA17	2	-	-	-	-	9	-	74	-	-	-	-	-	104	-	69	Utensil - General	HANDLE.
17892	8	-	-	BCKDIRT	TP-2.EXT	- GBU 1	1	-	1850	-	-	-	-	5	9	7	147	-	-	102	28	34	UNIDENTIFIED BOTTLE/GENERAL	INTACT, BEGDATE AS PER JONES & SULLIVAN 1985:47
17893	8	-	-	BCKDIRT	TP-2.EXT	- FTE63	1	-	1820	1880	1600	-	-	-	-	-	-	5	-	751	-	-	Pipe Bowls - Noel Huxie 23	COMPLETE BOWL W/ PARTIAL STEM; BOWL MARKED "TD" FACING THE SMOKE, HEAVILY STAINED.
17890	8	-	-	BCKDIRT	TP-2.EXT	- SPP40	1	-	-	-	-	44	-	58	-	-	-	-	-	650	-	-	Purse/Wallet	HINGED CLOSURE.
17891	8	-	-	BCKDIRT	TP-2.EXT	- SPP98	1	-	-	-	-	95	-	575	-	-	-	-	-	650	-	-	Personal Other	HAND-HELD MAGNIFYING LENS.
17889	7	-	-	-	TP-2.EXT	D CK1 2	1	-	1860	1891	682	-	-	50	-	4	-	-	-	101	2	-	Ironstone - Plain	LION & UNICORN MARK W/ "ROYAL STONE CHINA/ WEDGWOOD & CO."
17894	9	-	-	BCKDIRT	TP-3	- CPJ 2	1	-	1916	1952	19	-	-	50	-	3	-	-	-	101	2	-	Hard Paste Porcelain - Plain	BASE SHERD, MARK IN GREEN "CARR/THE BALLAR.../CHINA" CARR CHINA Co (LEHNER 1988:82).
17904	13	-	-	BCKDIRT	TP-4	- CSL72	1	-	1800	1940	-	-	628	710	-	-	-	-	-	101	99	-	Stoneware - Buff Salt Glazed - Albany Type Slip	OBVIOUS TURN RINGS ON INTERIOR.
17907	13	-	-	BCKDIRT	TP-4	- PTS 1	1	-	-	-	-	-	-	-	-	-	-	5	-	751	-	19	Pipe Stems - Measurable	STAINED.

ANCS#	CAT#	TR SCT	STP	OTHER	UNIT	STR	TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAR1	VAR3	VAR4	VAR5	VAR6	VAR7	VAR8	VAR9	VAR11	PATN	FUNCT	COMMENTS	TRANSLATION	NOTE
17906	13	-	-	BCKDIRT	TP-4	-	SAF 3	1	-	1830	-	-	42	-	51	-	-	-	-	-	212	-	-	Machine Cut Nail	-
-	13	-	-	BCKDIRT	TP-4	-	SAF 1	1	-	1810	-	-	161	-	575	-	-	-	-	-	215	-	-	Salt-Glazed Stoneware Pipe	-
17908	14	-	-	-	TP-4	I	PTS 1	1	-	-	-	-	-	-	-	-	-	-	5	-	751	-	-	Pipe Stems - Measurable	-
17895	10	-	-	BCKDIRT	TP-5	-	CR170	1	-	1920	1940	551	-	19	101	-	4	-	-	-	101	1	-	Ironstone - Hotel China	UNDERGLAZE PRINT IS POLYCHROME FLOWERS & VINES; CUSTOMER'S MARK OF "AMERIC...HOTELS" IS PART OF THE BORDER AS A SIGN HANGING FROM A SCROLL WORK PIECE ATTACHED TO A BRICK WALL. MARK IS "O P CO./SYRACUSE CHINA/10-F" SEE LEHMER 1988:455.
17896	10	-	-	BCKDIRT	TP-5	-	GBU 1	1	-	1903	-	-	-	-	24	12	8	147	-	-	102	28	-	UNIDENTIFIED BOTTLE/GENERAL	INTACT; OVOID IN SHAPE W/ ONE FLUTED SIDE EMBOSSED "2 oz."; ALSO EMBOSSED "1" WITH A DOT OVER IT ON BASE; BEGDATE AS PER JONES & SULLIVAN 1985:38.
17898	11	-	-	BCKDIRT	TP-6	-	CR1 2	1	-	1894	1929	121	-	-	107	-	3	-	-	-	101	1	-	Ironstone - Plain	PARTIAL LION & UNICORN (MELLOR & Co.).
17900	11	-	-	BCKDIRT	TP-6	-	CRW 2	1	-	1830	1900	925	-	-	75	-	3	-	-	-	101	2	-	Whiteware - Plain	PEDESTAL BASE; MARK ALSO HAS "STONE CHINA/MARK..."
17901	11	-	-	BCKDIRT	TP-6	-	CRW52	1	-	1870	1910	19	-	100	107	-	4	-	-	-	101	1	14	Whiteware - Transfer Printed - Brown	BROWN JAPONICA FLORAL; MARK IS "...GLAND/...ELIEU" W/ UNIDENTIFIED WORDS IN A WREATH.
17899	11	-	-	BCKDIRT	TP-6	-	CRW57	1	-	1887	1890	19	-	19	226	-	4	-	-	-	101	2	-	Whiteware - Transfer Printed - Black	PARTIAL MARK INCLUDES "RD. No. 69160"; DESIGN IS BLUE/BLACK FLORAL THAT LOOKS SOMEWHAT JAPANESE/ART NOUVEAU.
17897	11	-	-	BCKDIRT	TP-6	-	CRW57	1	-	1870	1900	19	-	19	50	-	3	-	-	-	101	2	-	Whiteware - Transfer Printed - Black	BASE SHEED; BLACK T P DESIGN THAT IS PROBABLY FAUX MAKELE; MARK IS LETTERS ON THE PLINTH OF A COLUMN; "E_PWE_T" W/ "MARBLE" W/ "F.W."; POSSIBLY F. WINKLE 1890-1910 (GODDEN 1964:678).
17902	11	-	-	BCKDIRT	TP-6	-	SOS 6	1	-	-	-	-	6	-	2	-	-	-	-	-	-	-	-	Unidentified Wood	SAMPLE.

ANCS#	CAT#	TR SCT	STP	OTHER	UNIT	STR TYPE	COUNT	WEIGHT	BEGDATE	ENDDATE	VAR1	VAR3	VAR4	VAR5	VAR6	VAR7	VAR8	VAR9	VAR11	PATH	FUNCT	COMNTS	TRANSLATION	NOTE
17903	12	-	-	SHOVEL	-	- SDA21	1	-	-	-	-	44	91	58	-	-	-	-	-	106	-	-	Spoon	MAYBE PLATED WITH SILVER
17905	100	-	-	SOIL-BORING B-1	-	- SOS 6	1	-	-	-	-	6	-	2	-	-	-	-	-	-	-	-	Unidentified Wood	SAMPLE

APPENDIX A

UNDERWATER ARCHEOLOGICAL REMOTE SENSING SURVEY

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National Park Service
Denver Service Center

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I. INTRODUCTION

This report describes an underwater archeological remote sensing survey that was conducted in the vicinity of Derby Wharf and Central Wharf, Salem Maritime National Historic Site (NHS), Salem, Massachusetts. The purpose of the survey was to locate and identify potentially significant submerged cultural resources that may be impacted by future park development, including possible dredging. The survey was conducted by Dolan Research, Inc., Philadelphia, for Louis Berger & Associates, Inc. (LBA), under a contract between LBA and the National Park Service, Denver Service Center. J. Lee Cox served as Principal Investigator and the primary author of this report. Wesley Hall and Paula K. Dardaris assisted Mr. Cox in data collection, which was conducted April 3-6, 1990. Dr. Michael L. Alterman provided general project coordination for LBA, and Dana C. Linck served as the Contracting Officer's Representative for the National Park Service (NPS).

The survey area included the area between Derby Wharf and Central Wharf and a 100-foot-wide corridor surrounding the wharves. Field methods included magnetic, acoustic (side-scan sonar), and seismic (sub-bottom) remote sensing techniques. A combination of these types of data has proven to be the most effective method to accurately identify and assess submerged targets. Typically, the most attractive targets produce a defined magnetic and acoustic/sub-bottom signature. Unfortunately, much of the survey area was affected by extensive magnetic disturbance.

Three targets, one magnetic, one acoustic, and the other sub-bottom, were identified during the Salem Maritime underwater archeological survey. Sufficient remote sensing information was gathered to document each target and to make recommendations for further investigation. The magnetic target appears to be a submerged cable in the vicinity of the lighthouse. The identity of the acoustic and sub-bottom targets cannot be determined without direct inspection; however, given the periodic dredging in this area and its use by modern boats, it is probable that these targets do not represent significant cultural resources. However, mitigating circumstances prevented the collection of reliable magnetic data across much of the project area, and potential submerged cultural resources may have been undetected by sub-bottom remote sensing. While there is little evidence to suggest the presence of any shipwreck remains in the project area, there is a strong possibility that cultural material related to the extensive historic use of the waterfront may be preserved. It is recommended that archeological test trenches should be located where bottom sediments will be disturbed. In addition, any dredging operations should be monitored by an archeologist.

The remote sensing survey followed the "Minimum Geophysical Requirements to Protect Cultural Resources," (U.S. Department of the Interior 1975), which lists requirements for locating underwater archeological sites.

II. PROJECT LOCATION AND DESCRIPTION

The project area for the underwater remote sensing survey included the waterfronts of Derby, Hatch's, and Central wharves, Salem Maritime NHS, Massachusetts. The area for the marine remote sensing survey was defined by the National Park Service as a minimum of 50 feet surrounding these wharves, the entire area between the wharves, and seaward of the beach between Kosciusko Street and Derby Wharf. Of particular interest was the channel on the west side of Derby Wharf where the NPS may install a historic or historic-replica ship that would require dredging of the channel.

Tidal variation in the project area is approximately 9 feet. During low tide, much of the area around the perimeter of the wharves is exposed and indicates the degree to which the harbor becomes silted. There has been a long history of dredging in the South River and around the wharves in order to keep the channel and dockage clear for ships. Since park acquisition, a 90-foot-wide channel on the west side of Derby Wharf and a 50-foot-wide channel to the west of Central Wharf have been dredged to the main channel in the bay. Furthermore, a former 200-foot-wide channel, no longer maintained, was dredged to the foot of the two piers extending away from the east side of Derby Wharf. The piers were used to land passengers from excursion boats that formerly operated from Derby Wharf. In addition, the areas adjacent to Derby and Central wharves were dredged during wharf rehabilitation and maintenance by the NPS.

III. FIELD SURVEY METHODS AND RESULTS

A. FIELD METHODS

In an effort to determine the presence of submerged cultural resources potentially related to the historic maritime activity along the Salem waterfront, an acoustic, sub-bottom, and magnetic remote sensing survey was conducted across the project area. Because of the shallow water conditions during low tide, data collection was conducted at or near high tide when effective navigation of the survey vessel and deployment of the magnetic and acoustic sensors were possible.

Survey work was carried out from a 20-foot Privateer shallow draft vessel suitable for river and shoal water operations. A Littlemore Scientific, Model 7702, proton procession magnetometer, capable of ± 1 -gamma resolution, was employed to collect magnetic remote sensing data. The sensor for the magnetometer was towed in the water column with a float 20 feet aft of the survey vessel for optimum data collection in a shallow water environment. A 2-second sampling rate by the magnetometer's towed sensor, coupled with a 3.5- to 4-knot vessel speed, assured a sample every 3 meters. A Klein three-channel acoustic recorder with both 500 kHz side-scan and 3.5 kHz sub-bottom sensors was used to gather acoustic and sub-bottom data. The sonar transducer module was deployed from the port side of the vessel and towed approximately 5 feet below the water surface. All acoustic data were recorded on wet chemical paper with an analog recorder.

Positioning for the survey was provided by a Motorola Mini-Ranger micro-wave ranging system with a positioning accuracy of ± 1 meter. Mini-Ranger transmitters were set up at two National Park Service waterfront properties to provide right-angle measurements for the survey area. Station 1 was established on the sill of the third-story window on the southwest corner of St. Joseph's Hall at the corner of Derby Street and Palfrey Court. Station 2 was set up on the sill of the second-story window on the southwest corner of the Visitor Center adjacent to the parking lot at the foot of Central Wharf.

Magnetic and acoustic remote sensing were completed separately because of limited space aboard the 20-foot survey vessel. All acoustic remote sensing data (side-scan sonar and sub-bottom profiler) were completed first. Remote sensing equipment on the survey vessel was then switched and magnetic remote sensing was completed. Lane spacing during the acoustic portion of the survey did not exceed 15 meters. To allow for the detection of subtle magnetic anomalies typically associated with smaller wooden sailing vessels, magnetic survey lane spacing was confined to 10 meters. Furthermore, after initial magnetic data were collected, detailed magnetic profiles were completed on each identified significant magnetic anomalies. Sufficient magnetic data were generated to produce a magnetic contour map of the survey area.

Positioning data generated by the Mini-Ranger system were annotated on all remote sensing records at 25-meter intervals along each lane. By recording the vessel's position and annotating the survey records at 25-meter intervals, it was possible to produce a track plot of the survey lanes. This allowed researchers to integrate all survey records into a survey map and to accurately pinpoint the location of each target. Magnetic data were correlated with sonar and sub-bottom records, and targets of potential significance were identified for examination and evaluation. All targets located during the survey were refined to permit highly accurate positioning and to facilitate signature analysis. Upon further analysis, all targets generating signature characteristics suggestive of submerged cultural resources were recommended for further on-site inspection and documentation to determine the nature of the material generating the anomaly.

All remote sensing data generated during the survey were analyzed to identify and locate each of the significant targets. All magnetic data were contour plotted, where possible; widespread, intense magnetic disturbance due to shoreline features made the collection of reliable magnetic data very difficult. Sonagram and sub-bottom records were correlated with magnetic anomalies and analyzed for target specific information. Each significant magnetic, side-scan, and sub-bottom target was designated with a target number and individually assessed.

The identification of significant magnetic and acoustic signatures was based on several criteria. Magnetometer data were contour plotted, and each anomaly was analyzed according to magnetic intensity (total distortion of the magnetic background in gammas), pulse duration (signature length), and signature characteristics (negative monopolar, positive monopolar, dipolar, and multi-component). Side-scan sonar acoustic signatures were analyzed according to their spatial extent (total area of disturbance) and signature characteristics (shape, relief above the bottom, strength of return, and contrast with the background). Sub-bottom signatures were analyzed according to strength of return, spatial extent, environmental context, shape, and location in bottom sediment.

The criteria for analyzing remote sensing targets have been developed from a data base of target signatures compiled over the last three decades (Breiner 1973; Breiner and MacNaughton 1965; Broadwater 1978; Clausen 1967; Clausen and Arnold 1975, 1976; Hall 1966; Irion and Bond 1984; Watts 1975, 1980, 1982, 1985a, 1985b). The ambiguous nature of isolated magnetic signatures has led researchers to use acoustic and sub-bottom remote sensing equipment in conjunction with a magnetometer on most underwater archeological surveys. Additional data provided by acoustic and sub-bottom instruments frequently permit target identification to be made from the combination of remote sensing information.

Acoustic data, in the form of sonagram records, are produced by processing sound waves emitted into the water column on both sides of the submerged sensor and bounced back off the bottom surface and exposed objects. The best available sonar units can produce a high-resolution sonagram record which is almost photographic in quality. The sub-bottom sensor emits acoustic waves directly down into the bottom surface, and the waves are capable of penetrating various layers of sediment to provide an indication of the bottom composition. The

sound waves also reflect off hard objects potentially located in the bottom sediment and provide an indication of their depth and also their spatial extent. Rather than producing high-resolution images like the side scan-sonar, the sub-bottom data only generate a rather generic elliptical signature for buried shipwreck remains.

A certain degree of structural integrity of a site must remain above the bottom to produce a reliable shipwreck signature on side-scan sonar. Where no structure survives above the bottom surface, researchers must rely on sub-bottom data to help locate shipwreck remains (e.g., Watts 1975). Scattered and buried shipwreck sites are very difficult, if not impossible, to distinguish. Side-scan records of an identified shipwreck in the Wando River, Charleston, South Carolina, produced little diagnostic evidence of the site. At best, the target could be identified as a scatter of bottom surface material. Fortunately, most modern debris produce sonagram records that are easily identified. Typically, modern debris such as cable, pipe, chain, and tires produce strong returns because they are hard refractors.

B. RESULTS OF MAGNETIC SURVEY

Fourteen survey lanes were completed around Derby and Central wharves for the magnetic remote sensing survey, six east of Derby Wharf (1-6), six between Derby Wharf and Central Wharf (7-12), and the last two south and west of Central Wharf (13-14) (Figure A-1).

Extreme magnetic distortion was detected across many portions of the survey area, with 6,000 gamma variations recorded over the course of a few hundred feet in Lanes 13 and 14, which are in the vicinity of the interlocking steel sheet piling bulkhead with tie rods. This steel bulkhead effectively eliminated the collection of reliable magnetic data west of Central Wharf. The stone and wooden wharf bulkheads were also a source of the magnetic disturbance as they are held together with extensive amounts of iron. In addition, there was extensive magnetic variations caused by the industrial and commercial development and activity in the vicinity of the survey area. Visual inspection of much of the survey area during low tide confirms the presence of a wide range of miscellaneous ferrous material scattered throughout the project area. A large (2-inch-diameter) cable was located near the beach east of Derby Wharf and it extended into the survey area parallel to Derby Wharf. Portions of another cable were also detected east of Derby Wharf near the lighthouse at the distal end of the wharf, and this may have originally been part of the same cable system located at the beach.

Despite these disturbances, an effort was made to produce a magnetic contour map of the survey area using 10-gamma contour lines (Figure A-2). While the intense magnetic distortion prevented useful magnetic contouring across much of the survey area, a cluster of magnetic disturbance was contoured east of Derby Wharf, near the distal end. Cable was detected in the vicinity during low tide, and several moorings were also present adjacent to the target location. Analysis of the magnetic signature indicated two nearby anomalies (m2:15a & b) with intense magnetic distortion and limited duration, signature characteristics often associated with modern ferrous material.

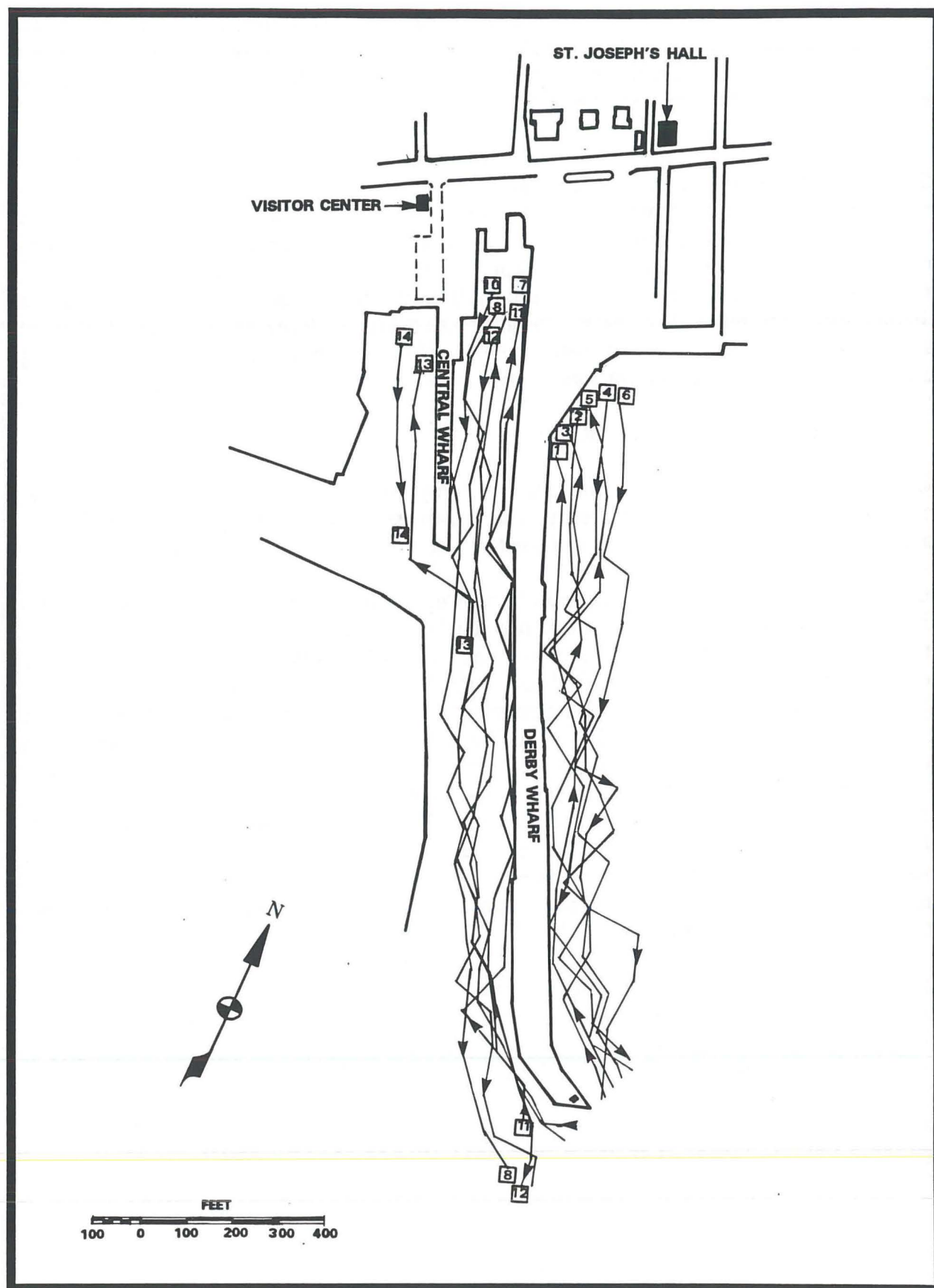


FIGURE A-1 Magnetic Survey Lane Locations

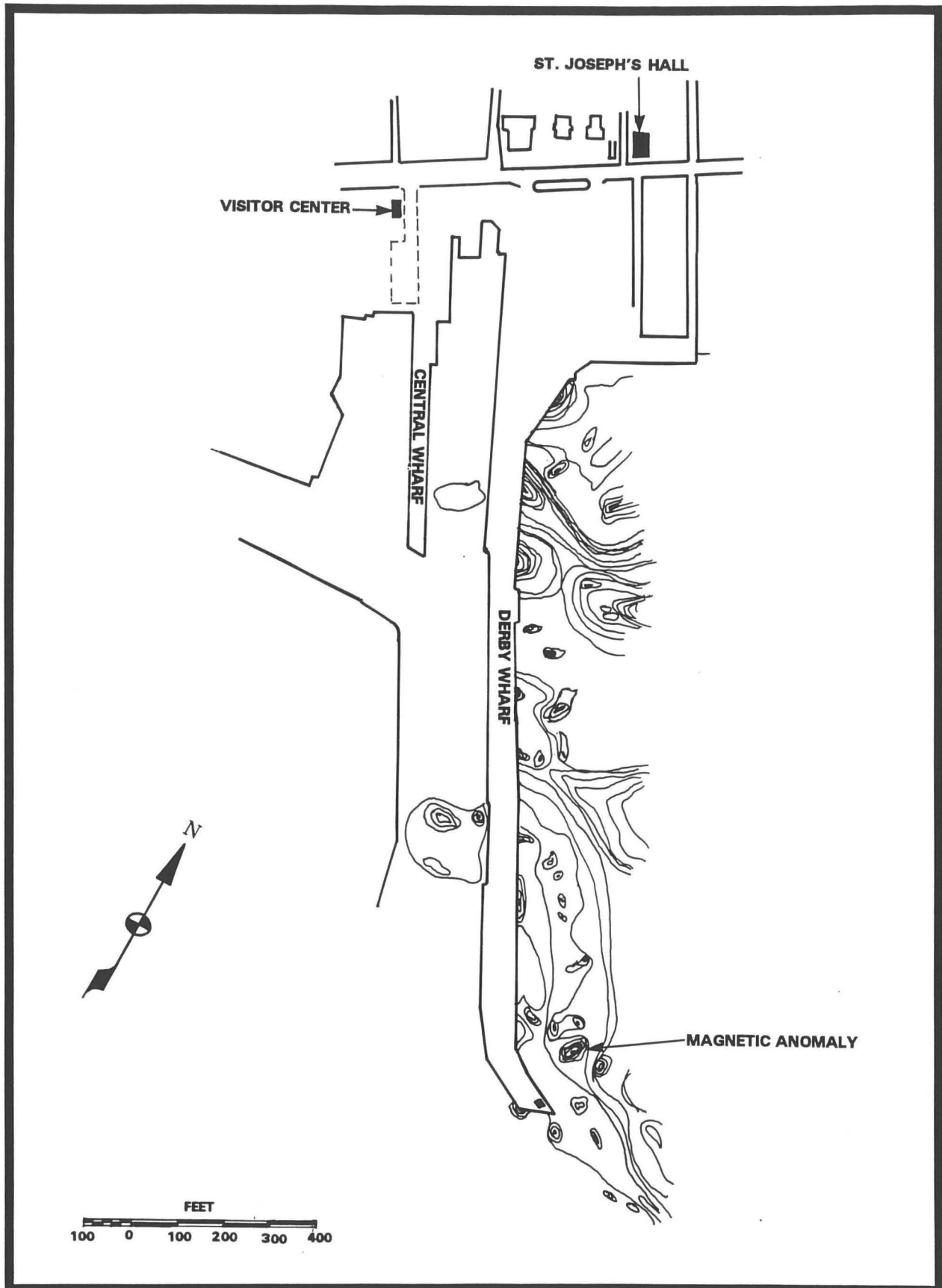


FIGURE A-2 Magnetic Survey Contour Map

The one magnetic target, m2:15a & b, was a multi-component anomaly with a 420-gamma signature that extended over an 18-pulse duration. The magnetic anomalies were detected in Magnetic Survey Lanes 2, 3, and 5. There was no corresponding side-scan sonar or sub-bottom image, and the anomalies were dismissed as modern debris. No other potentially significant magnetic targets were identified in the survey area. Extensive magnetic background disturbance throughout much of the project area may have effectively masked the typical magnetic signature associated with historic submerged cultural resources. Water depth at high tide was approximately 12 feet. Exposed cable was identified extending into the target vicinity during low tide.

C. RESULTS OF SIDE-SCAN SONAR AND SUB-BOTTOM SURVEY

Fourteen survey lanes were completed with the side-scan sonar and sub-bottom profiler (Figure A-3). Shallow water on the eastern side of Derby Wharf near its junction with the waterfront prevented comprehensive collection of acoustic data in that portion of the survey area. Seven survey lanes were completed on the east side of Derby Wharf, five lanes were run west of Derby Wharf, and two lanes were completed west of Central Wharf.

Two targets were identified during this portion of the survey: a side-scan target (ss7:10.5) located between Derby and Central wharves, and a sub-bottom target (sb11:1) located west of Central Wharf.

The side-scan sonar target was first located in Survey Lane 7 as a scatter of material on the bottom surface between Derby and Central wharves. This anomaly was also identified during subsequent Lanes 8, 12, and 13 (Figure A-4). The target featured two primary components, rectangular in shape, with moderate relief off the bottom surface. Scattered material appears to be associated with the two components and covers an area approximately 15 to 20 feet long. Plotting the target location confirmed that it is adjacent to a mooring platform that presently accommodates two small boats. There is a strong likelihood that the material generating the acoustic image at ss7:10.5 is associated with this platform and/or the docked boats. The target is located in a portion of the waterfront that was dredged to accommodate a Navy submarine (Wilson and Moran 1980:12). Approximate water depth during high tide was 16 feet. No magnetic signature was distinguished above the background noise.

The sub-bottom target, sb11:1, was located during Lane 11 on the west side of Central Wharf. Its location was confirmed during a series of closely spaced lanes that were made to refine the target signature. The target is located directly in front of one of the boat slips that extends east from Pickering Wharf. The sub-bottom target appears to be laying parallel with Central Wharf and covers an area estimated to be 10 to 15 feet long (see Figure A-4). No clear side-scan sonar image was identified at the location, confirming that the target does not protrude above the bottom surface. Analysis of the sub-bottom data suggests that the target is located beneath at least 5 to 7 feet of bottom sediment. This area has been dredged to accommodate commercial activity at Pickering Wharf, and more recently a series of pleasure boat slips at Pickering Wharf. Commercial fishing vessels also tie up to a floating dock attached to the west side of Central

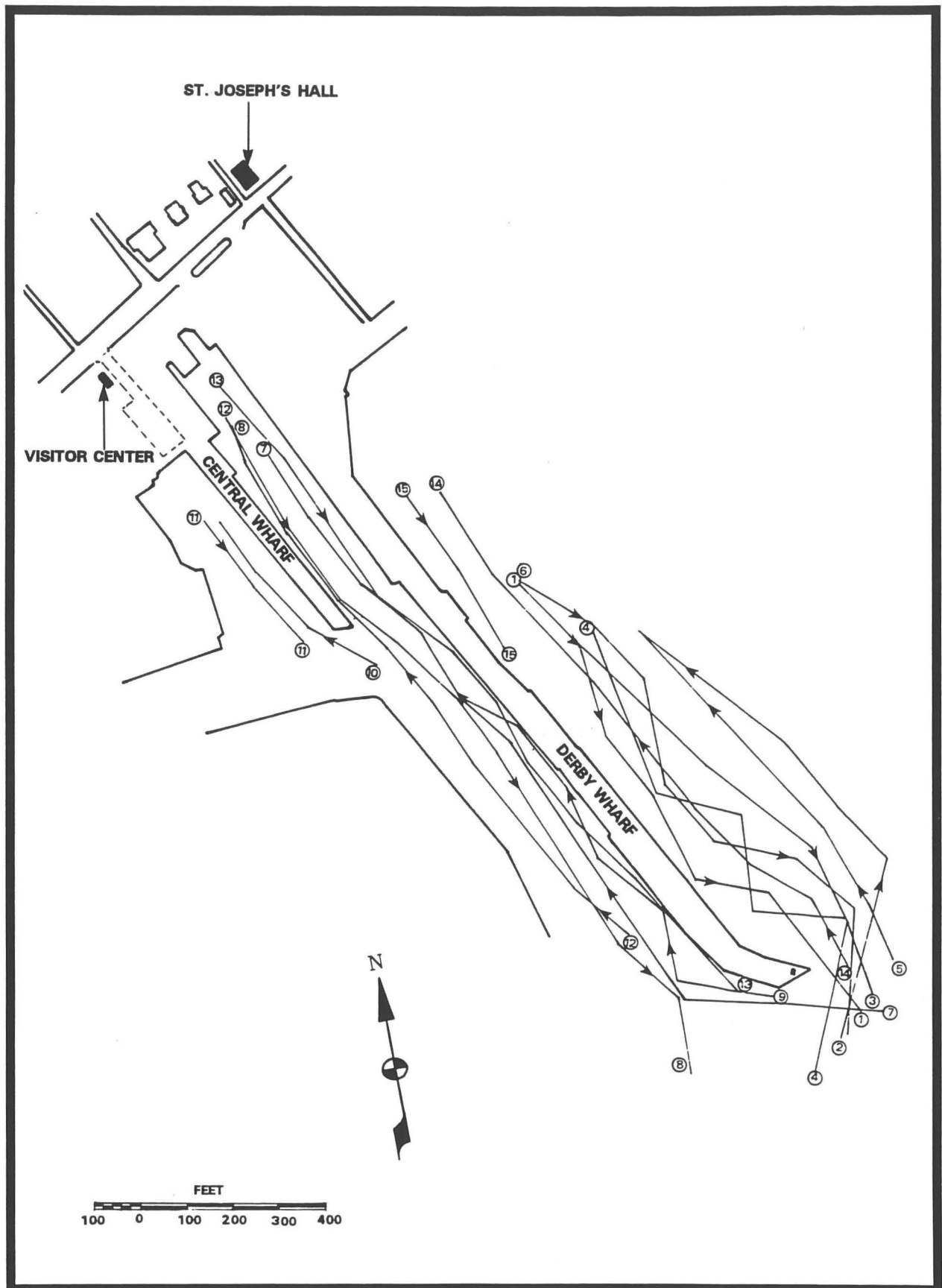


FIGURE A-3 Side Scan Sonar and Sub-Bottom Survey Lane Locations

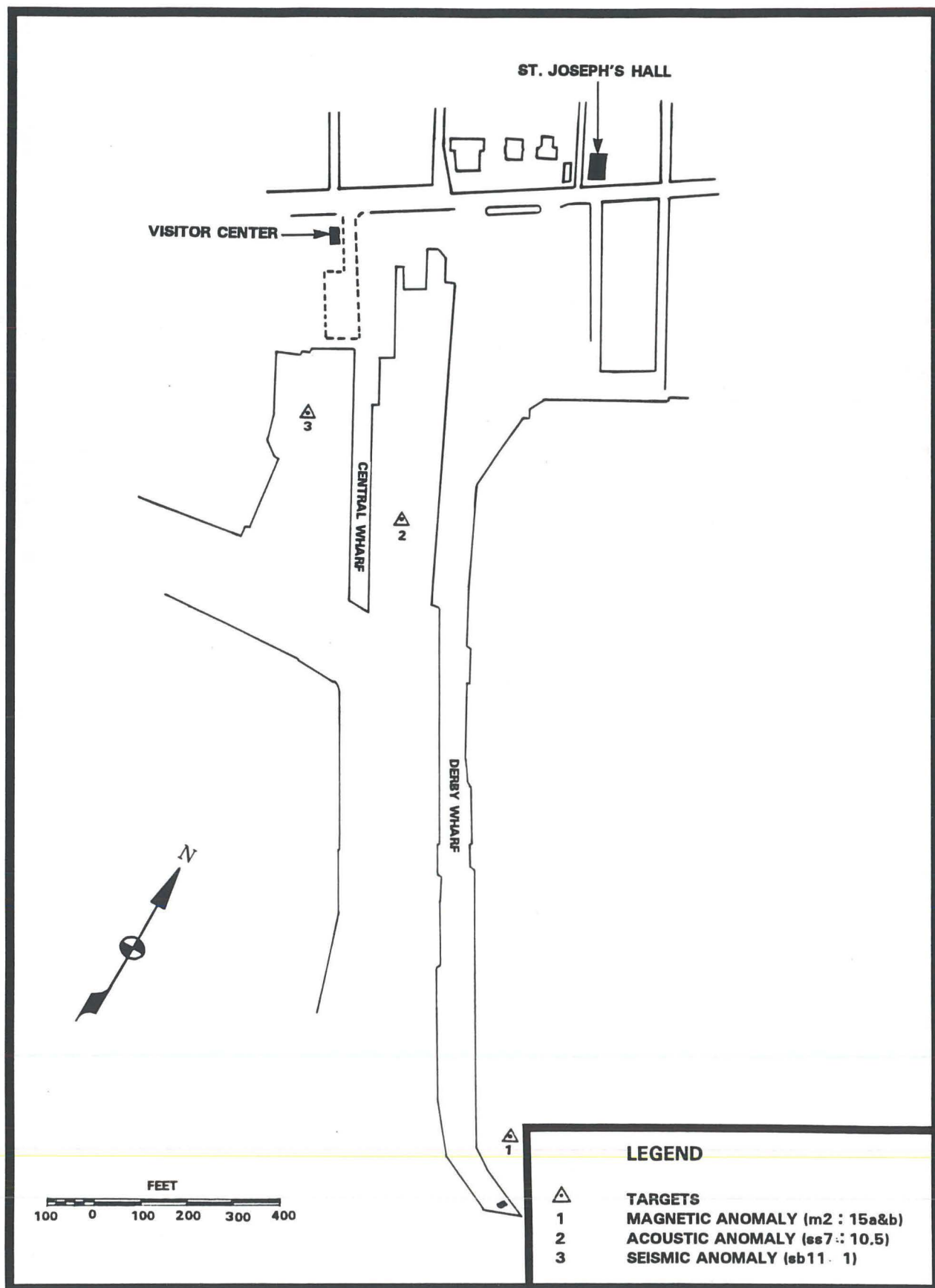


FIGURE A-4 Location of Remote Sensing Targets

Wharf. Further information on the identity of the target would have to be gathered through probing and/or possible excavation should impact be likely. Any magnetic signature produced by this anomaly was completely masked by the interlocking steel bulkhead. Approximate water depth at the target location during high tide was 16 feet.

IV. CONCLUSIONS AND RECOMMENDATIONS

A total of three targets were identified during the remote sensing survey. Magnetic target m2:15a & b generated signature characteristics suggestive of modern ferrous debris. There was no corresponding side-scan or sub-bottom image to further identify the anomaly. No further investigation is recommended at this location. Side-scan sonar target ss7:10.5 appears to be associated with the mooring platform located in the direct vicinity. However, if impact to the area is likely, archeologists should visually inspect and probe the area to confirm the nature of the material generating the image and to determine if there are any associated features buried beneath the bottom surface. Sub-bottom target sb11:1 has no corresponding side-scan sonar image and all components of the target are buried. Material generating the sub-bottom target is buried approximately 5 to 7 feet deep in bottom sediment. If future impact is proposed, divers should be used to probe or excavate down to the target to determine the nature of the material generating the sub-bottom anomaly.

In addition to the remote sensing targets identified, it is recommended that a series of test archeological trenches be opened at any proposed submerged impact areas. The intensive historic use of the wharves strongly suggests that historic material exists in the bottom sediment. While there is little evidence to suggest the presence of any shipwreck remains in the project area, there is a strong possibility that cultural material related to the extensive historic use of the waterfront exists buried under the bottom sediment. Cultural material potentially deposited in the survey area ranges from miscellaneous material randomly discarded to specific items related to the waterfront activity systematically deposited over an extended period of time. Mitigating circumstances prevented the collection of reliable magnetic data across much of the project area, and many of the potential submerged cultural resources likely deposited in the area would have gone undetected on sub-bottom remote sensing data.

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APPENDIX B

**A GEOPHYSICAL SURVEY AT
SALEM MARITIME NATIONAL HISTORIC SITE**

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Under Contract CX-2000-8-0011
Work Order No. 29
National Park Service
Denver Service Center

April 1990

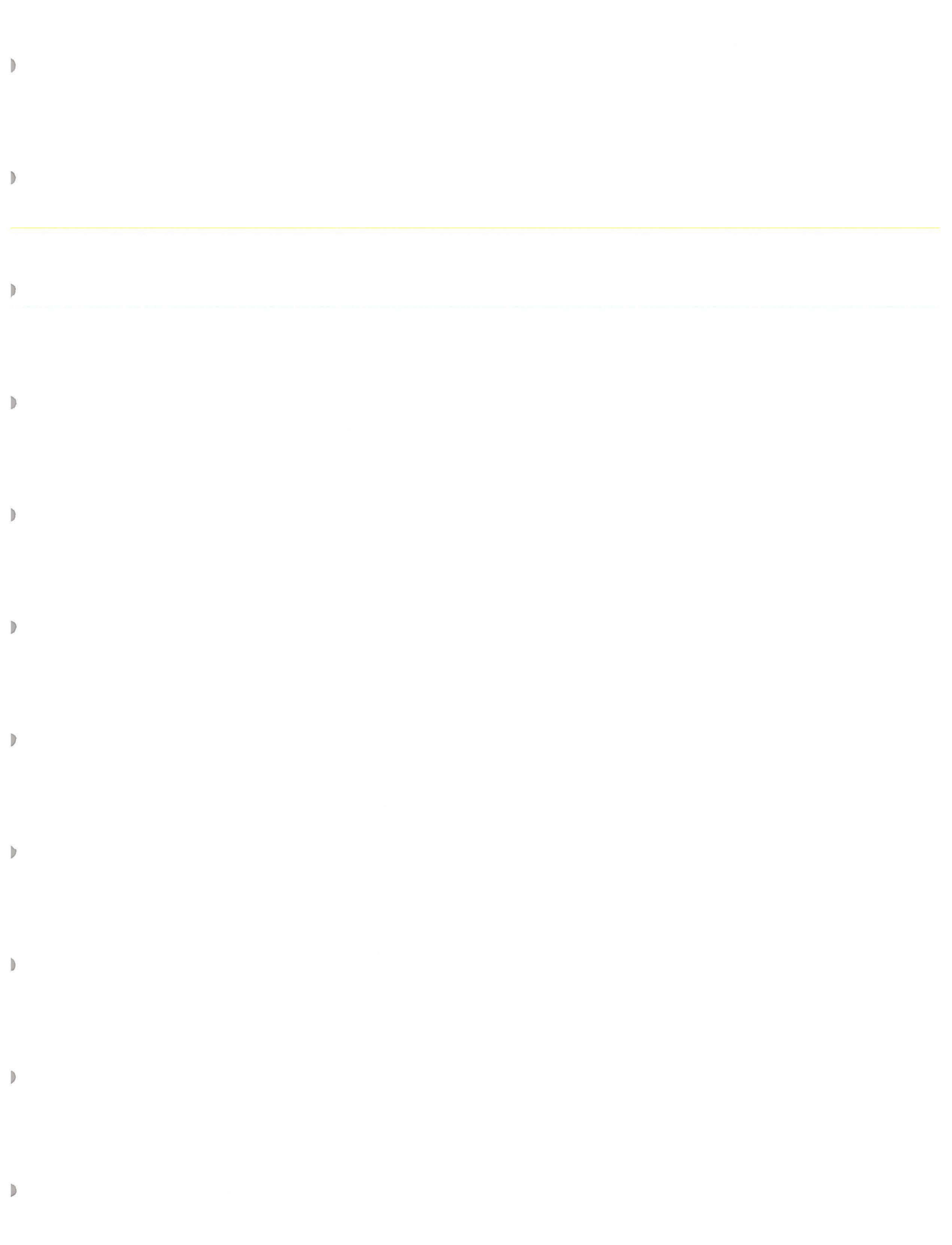


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I. INTRODUCTION

A remote sensing survey was carried out at Salem Maritime National Historic Site using conductivity, magnetometer, and radar instruments. The study area included an area south of Derby Street where historic wharves are present, and an area north of Derby Street in the yards of three historic houses and the U.S. Custom House. The conductivity survey in the area south of Derby Street located several earth contrasts that may indicate changes in fill content representing the locations of earlier waterfronts. Little indication was found for the numerous historic buildings that formerly stood in this area.

Ground-penetrating radar was the primary geophysical technique used in the survey north of Derby Street. The most interesting results were at the Narbonne House, where three potential objects were detected at depths of 5 to 7 feet below present ground surface. Several potential features were also located below the present garden in the rear yard of the Derby House. Also, on the east side of the yard, the radar detected a concentration of anomalies that could indicate the location of a former structure or a scatter of debris.

My thanks go to the National Park Service personnel who reviewed the historical changes at the site for me: Dana C. Linck (Denver Service Center, Eastern Applied Archeology Center, Maryland), Dick Ping Hsu (North Atlantic Regional Office), and John Frayler (Salem Maritime NHS Historian). John Sousa, in charge of maintenance at the site, told me about the buried utilities and the paths on the property. For the resistivity survey, I was aided by several individuals. During the measurement of profiles, Art Sweeney and Terri Bahner from Louis Berger & Associates, Inc. (LBA) assisted me; for the resistivity soundings, Dana Linck and Dick Hsu collaborated with me. Resistivity surveys are rather cumbersome surveys to do, and I appreciate this help. Michael Alterman, Project Manager for LBA, edited this report.

II. SITE DESCRIPTION

The survey location was divided into two areas that are separated by Derby Street. The wharf area, which extended south of Derby Street to the waterfront, contained mostly open lawn with no trees or bushes. The land, which dips down slightly toward the shore, has a total relief of roughly 10 feet.

Tidal range is about 6 feet, and with high tide, the water surface is only about 4 feet below the land surface at the north end of the wharves. Historical records show that there were once many buildings on the wharves and nearby land which were built into the South River from the seventeenth-century shoreline that ran approximately along what is now Derby Street.

The survey area north of Derby Street contained six historic buildings. With the exception of the Custom House and the Derby House, which are masonry structures, these buildings are of frame construction. Ground surfaces consist of lawn, trees, shrubs, brick and crushed-stone walks, and a cobblestone alley. Most of the large trees are approximately located on the figures in this report. Most of the brick is underlain by reinforced concrete which caused a strong attenuation of the radar signal and, therefore, little could be detected below them. The radar also could not profile below the crushed-stone paths in the backyard of the Derby House; the most likely cause of this attenuation is an aluminum sulfate chemical used to prevent the growth of weeds or moss.

In the 1930s, many buildings were removed when the National Park Service acquired property for the establishment of the National Historic Site. The site was also landscaped at that time, which included widespread soil removal as well as the introduction of new fill soil.

III. SURVEY METHODS

A coordinate system was established at the site by personnel from Louis Berger & Associates, Inc. Wooden stakes were placed at intervals of approximately 50 feet to mark a grid with a 0/0 datum on the northern curb of Derby Street and an east-west axis aligned with the street. For the maps of the wharf area, south and west coordinates are indicated by negative numbers, while north and east are positive.

Several different geophysical instruments were applied to this investigation. In the wharf area, both magnetic and electromagnetic survey methods were used. In the area of the historic buildings north of Derby Street, a ground-penetrating radar survey was executed.

The radar instrument that was used was a SIR System-7 manufactured by Geophysical Survey Systems. While a Model 3105 (180 MHz) antenna was tried initially, a higher resolution antenna, Model 3102 (315 MHz), was found to be much more suitable for this project. The total length of the profiles was 9,735 feet. Lines of profile were spaced 5 feet apart except in the north yard of the Derby House, where the spacing was 2.5 feet. Lines of traverse were generally made toward the north; this had the advantage of minimizing the detection of utility lines, which are mostly along north-south lines in this area.

The depth scale on the radar profiles was estimated by a geometrical analysis of the shape of echo arcs from some buried objects. These measurements are shown in Figure B-1*. An average velocity of 0.25 feet/nanosecond has calibrated the profiles here.

The magnetic survey was performed with a pair of GeoMetrics G-856 proton magnetometers. One of these instruments was used as a base station to monitor the temporal change in the earth's magnetic field. The sensor staff of this instrument was tied to a wooden post on Derby Wharf, and measurements were automatically recorded at one minute intervals. These measurements, which are plotted in Figure B-2, illustrate typical change in the magnetic field during the day. The second instrument was carried around the site with the sensor on a staff at an elevation of 8 feet in order to minimize the effect of small shallow objects. Measurements were made at 10-foot intervals and were guided by a calibrated rope. A total of 1,343 measurements of the spatial magnetic field were made. The temporal correction of the data were made with the aid of the GeoMetrics program Magpac 4.1.5, which does a linear interpolation of the temporal data.

Two different electromagnetic induction meters were employed in the wharf area. The deep-measuring instrument was a Geonics EM31 terrain conductivity meter that averages the electrical conductivity of the earth to a depth of about 20 feet. A pair of measurements were

* Figures B-1 through B-37 are located at the end of this appendix.

made at each point. For one measurement, the 13-foot-long bar of the instrument was aligned north-south; a second measurement was made with the bar aligned east-west. The average and normalized differences of these readings are given here; the average is a good indication of the true conductivity of the earth while the difference can reveal pipes, wires, and other long conductors. A total of 1,267 pairs of conductivity measurements were made with this instrument and recorded in a Metrosonics dl-712 data logger for later analysis.

The second conductivity instrument was the Geonics EM38. This is similar to the EM31 but smaller and measures to a depth of about 5 feet. This instrument was applied only in the north yard of the Derby House, with measurements spaced by 5 feet and with the bar aligned only north-south; a total of 424 measurements were recorded with the Metrosonics data logger. It was found that about 10 percent of the readings had sporadic noise of about 1 mS/m (millisiemens per meter). The origin of the noise is unknown, although it is possible that it originates in an industrial plant in the vicinity. It is also possible that the noise seen in the magnetic base station data of Figure B-2 has the same cause. In neither case was the noise a serious problem for the surveys. With the more conductive soil in the wharf area, the EM31 found no detectable noise.

Several types of resistivity surveys were done. The instrument used was a model SAS300B resistance meter from ABEM. Four soundings were done in order to estimate the electrical stratification of the earth. The offset Wenner configuration was used in order to minimize lateral contrasts in the earth (Barker 1981); the averages of pairs of readings are plotted in Figures B-13 through B-16. Two different electrode configurations were used for the resistivity profiles of Figures B-9 through B-12. The normal Wenner configuration was used for initial measurements, and then the pole-pole configuration was tried and found to be suitable. For the pole-pole configuration, only two electrodes are moved during the survey (instead of four in the Wenner configuration), which makes the survey faster and easier. With the pole-pole configuration, a pair of distant and stationary electrodes provide references for the current source and voltage measurements. The reference current electrode was located on the eastern side of Derby Wharf at about S1,000/W200, and the reference voltage electrode was located on the western side of Central Wharf at about S500/W400. A total of 467 measurements of resistance were made on seven profiles. On April 6, during the measurements on line S100, it was possible that the magnetic measurements of the marine survey affected the readings. These readings are shown in Figure B-11 in the coordinate range of W300 to W100 for an electrode spacing of 15 feet. Because the marine magnetic survey was done on the beach and the sensor was near enough to the reference current wire, induction between the two was possible. This did not cause serious noise to the data, although the small-scale changes in the measurements of resistivity are probably not reliable.

The fieldwork of this survey was done over the period of April 4 through April 10, 1990. While the last two days had warm weather, the first days were cool. On April 3, there was heavy rain at the site, and there was a small amount of rain in the morning of April 10. During the morning of April 7, about 0.5 to 1.0 inch of snow fell at the site, but it melted by the afternoon.

IV. SURVEY RESULTS

Figure B-3 presents a summary of the findings from the geophysical survey of the wharf area (south of Derby Street). The location of some surface features, such as stone monuments, pipes, and walks, are approximated on this site plan. Areas of soil changes indicated by the conductivity survey are shown with hachured lines. Linear features, indicated by beaded lines, probably represent buried utilities. Several massive iron objects were indicated by the magnetic survey. There was relatively little indication of the many buildings which were formerly here.

Figures B-4 through B-8 are plots of the fundamental geophysical data. The magnetic map of Figure B-4 shows large anomalies on the north and east. On the north edge, parked cars along Derby Street may be the cause of the magnetic highs; buried pipes along the street could also have contributed to these readings. On the east side, iron and brick in the residential structures in the vicinity is probably the cause of the magnetic lows. There is a cluster of large-amplitude magnetic anomalies along the path to Derby Wharf, on line W150 (called -150). These could be caused by wharf reinforcement, pipe sections, or industrial debris. The large anomalies found on Central Wharf, at W300, could have the same cause, and parked cars in the lot to the west of the wharf could also have contributed to these readings. While there is one isolated magnetic anomaly at S290/W70, there is no evidence of tons of iron trash in the fill.

The conductivity map (Figure B-5) is an average of the data in Figures B-7 and B-8. It shows a very large range of conductivity, from low values of about 15 mS/m in the northeast to very high values of about 400 mS/m just to the south. These highly conductive materials could be clay or soils saturated with salt water. The low-conductivity materials must have little or no clay or saline water and could have a good fraction of sand, gravel, or rock. The sharp boundary at about S200 probably marks a contrast in the earth materials used to fill this area. There is another area of high conductivity on Hatch's Wharf, in the vicinity of S100/W225. This also may mark a boundary in the fill; this boundary is particularly sharp on the west side of this area, forming an abrupt line at W260. The line of the path along Derby Wharf is rather low in conductivity. This may be partly due to its higher elevation and partly due to the less conductive soils within it.

Several small-area conductivity anomalies are evident in Figure B-5; many of these can be caused by metal objects. Metal is more likely to be the cause of the patterns of Figure B-6, where the difference of two conductivity measurements is plotted. The anomalies in this figure are plotted in Figure B-3 as beaded chains, for many of them could be segments of underground pipes. Other abrupt changes in conductivity can also cause these patterns, and the reinforcing rods of former walls of wharves are one possibility.

Resistivity is the reciprocal of conductivity; high values of resistivity mean that the conductivity is low. Resistivity surveys are slow but are a valuable addition to conductivity surveys because resistivity surveys can be less affected by metallic trash in the earth. Resistivity measurements

can also give a good indication of how the earth changes with depth. The resistivity profile of Figure B-9 shows the high resistivity which was found in the northeast corner of the area of the wharf survey; this corresponds to the low conductivity found there with the EM31 survey.

On a technical point, Figure B-9 compares two methods or electrode configurations for the measurement of resistivity. While both have a electrode spacing of 10 feet, the measurement with the pole-pole array averages through a deeper volume of the earth and detects lower resistivity with increasing depth. In this figure, the resistivity scale is linear, which is good for illustrating the extreme differences which were found. However, a logarithmic scale more accurately shows both high and low measurements and Figure B-10 has the same measurements as Figure B-9. Figures B-11 and B-12 illustrate additional resistivity profiles; these support the findings of the EM31 conductivity survey. As it turned out, the EM31 found little interference from metal in the earth, and so these resistivity profiles were not as necessary to the survey as was originally thought.

Three resistivity soundings revealed that the resistivity of the earth is very low below a depth of a few feet. The measurements in Figures B-14 through B-16 were analyzed first by comparing the curves to published models of horizontally stratified earth (Orellana and Mooney, 1966, Master tables and curves for vertical electrical soundings, Interciencia). Then, the models were refined with a computer analysis (Harold Mooney, 1983, Handbook of Engineering Geophysics, Bison Instruments). The results are given in Figure B-17. Between the two wharves, but north of them, saline or clay soil is found at a depth of about 2 feet and this may mark the fill in a former dock. In the northeastern part of this area, high-resistivity soil (about 500 ohm-meters) extends to a depth of about 9 feet; this is a sandy or gravelly fill. On the right-hand side of Figure B-17, the sounding, which was made near the present shore, encountered low-resistivity clay or salt water at a depth of about 3 feet. Magnetic and conductivity measurements were also made in the small lot which is southeast of the wharf area. The results are given as Figures B-18 through B-20. While nearby cars affect the data somewhat, there is evidently an iron object at about E75/S405.

The survey of the area of the historic buildings was broken down into five regions. Each of these regions is illustrated with a pair of maps. The first map summarizes the main findings of the radar survey and also approximates the location of some of the at-surface features which were found. The second map shows the radar echoes. Not much was found behind the Custom House. Although the radar could profile deeply into the earth, no clear pattern could be found in the distribution of small objects which were mapped. In Figure B-23, the broad black bands below a depth of about 3 feet are probably caused by natural strata in the earth; the depth of the profiles here suggests that this is sandy or gravelly soil. An object at N152 with a depth of about 1.2 feet causes an echo which has the pattern of a nested arc; this is typical of many found at this site and the object must be about 1 foot in size or less. A circle in Figure B-22 locates this echo. A similar echo was found on the line 5 feet to the east; both echoes could be caused by the same object, probably between the two circles which mark the echoes. This object is located in Figure B-21. In Figure B-22, dots mark weaker echoes and asterisks show where there could be metal underground. Straight lines indicate that a rather flat interface was

detected, while wavy lines show where the soil strata were out of the ordinary. Broken lines mark paths; the reinforcing mesh attenuates the radar signal and relatively little is seen below them. In Figure B-23, each of the metal wires can be detected, causing a serration of the radar echo at about N170.

The radar echoes from the back yard of the Hawkes House are plotted in Figure B-25, and the two features of possible interest are shown in Figure B-24. In this yard, there is a soil interface at a depth of 1 to 2 feet which is illustrated in Figure B-26; the area with a particularly strong echo is hachured in Figure B-24. A resistivity sounding was done near this feature, and the data in Figures B-13 and B-17 suggest that the strong radar echo is caused by a layer of sandy or gravelly soil below a more loamy soil. While the depths from the sounding do not agree with those from the radar, the radar is probably more accurate, for there are always uncertainties in the depth analysis of resistivity soundings.

The radar revealed that the soil strata in the vicinity of N140/W30 are rather irregular. While the roots of large trees can sometimes cause clusters of echoes in their vicinity, it is possible that this tree has not caused this pattern, for the other tree to the east has no similar pattern. The stippled area in Figure B-24 could be caused by a cluster of objects in the earth.

The cobble drive on the west side of this lot was essentially opaque to the radar. While the reason is not known, it is possible that cinders were placed here long ago and they severely attenuate the radar signal.

Three deep objects appear to have been located in the lot of the Narbonne House. Black circles in Figure B-27 locate them. These could be refilled pits with buried objects or soil contrasts within them; wells or privies are possible. Figure B-29 shows one of the echoes; the broad arms on the echo arc indicate that the object is an excellent reflector of the radar pulse. There is a suggestion that the soil strata above this object are unusual also.

In Figure B-30, there are two additional deep echoes which may also be of interest. These are close to a faucet and it is possible that these echoes are caused by a right angle bend in the buried water pipe. However, similar echoes were not found 5 feet closer to the faucet and there is no known mechanism for there to be two echoes from the pipe. Therefore, the two echoes in Figure B-30 may be of archeological interest, but they are less reliable than the echo shown in Figure B-29.

Several features of possible importance were located in the north yard of the Derby House, and these are plotted in Figure B-31. The radar profile of Figure B-33 crosses several of these features. While these are in or near the present garden, they are probably too deep to be caused by any cultivation which has been done there. An 1874 atlas shows that a structure was once in the vicinity of these radar echoes. On the eastern side of the lot, there is an area with somewhat irregular soil strata, suggestive of debris or former excavation. While this is rather faint, it is marked with a stippled pattern in Figure B-31.

A conductivity survey was done in this yard, but it was quite unsuccessful. The data are mapped in Figure B-34, but the only feature clearly shown is the crushed-stone walkway. The radar detected little in the south or front yards of the two houses; the data are mapped in Figures B-35 and B-36. Figure B-37 shows a typical radar profile which illustrates a soil interface at a depth of about 2 feet. It appears to be most likely that this interface is a natural soil strata below the archeological zone; however, it is possible that some of these soil interfaces could be related to the landscaping of the site. The soil interface marked with a hachured area in Figure B-35 could be one of these natural contrasts.

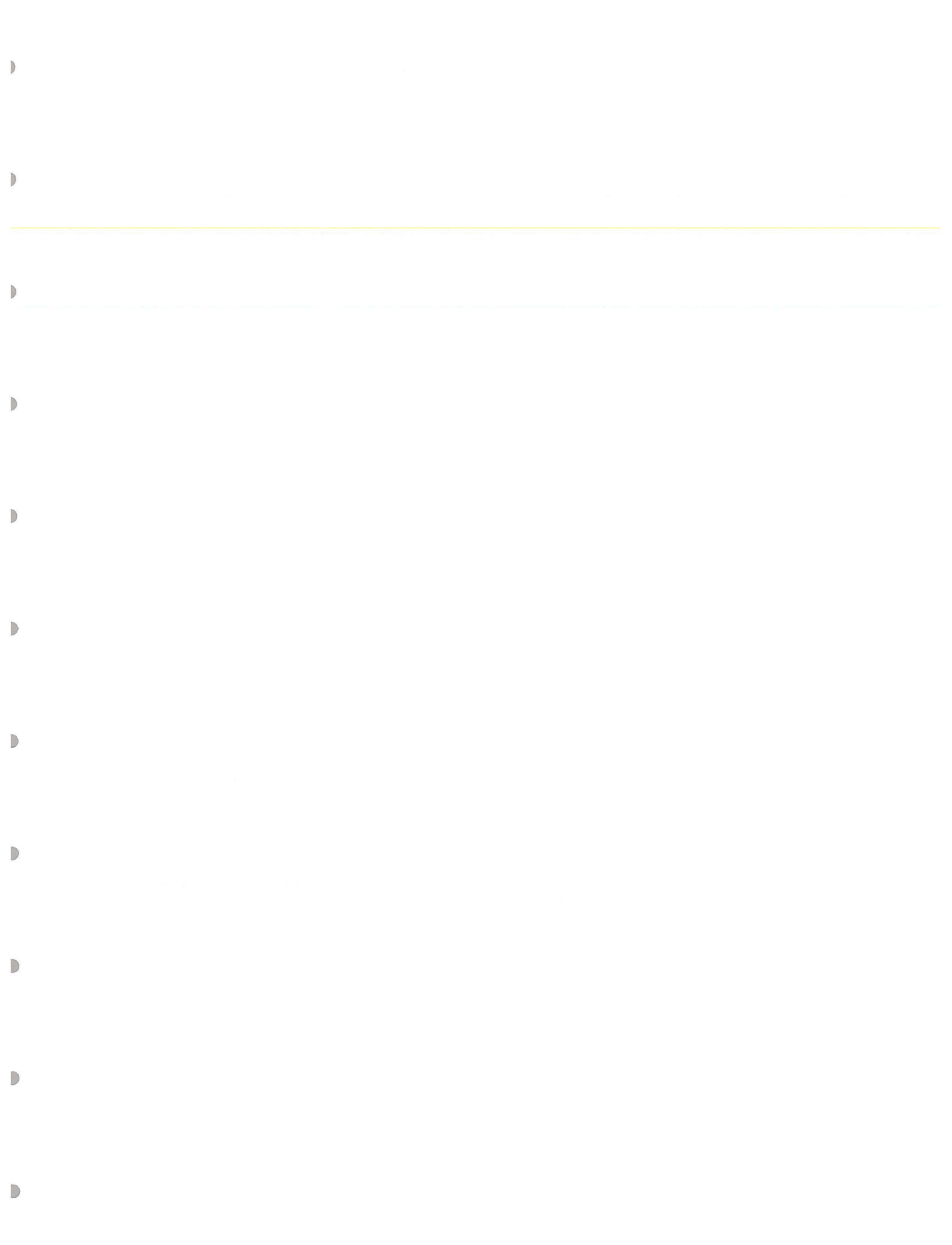
V. CONCLUSIONS

It appears possible that earlier phases of the extension of the waterfront have been mapped by the conductivity survey. While large masses of iron were located along the path of Derby Wharf, there is relatively little in the fill area to its east. Very little indication was found of the buildings formerly located here.

The radar detected a few indications of refilled pits and concentrations of debris in the vicinity of the historic houses north of Derby Street. A rather flat soil interface was found at a depth of 1 to 2 feet under much of the land there. It is uncertain whether this is a natural soil strata, or whether it is a result of earlier landscaping at the site.

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1981 *Geophysical Prospecting* 29(1):129-143.



FIGURES B-1 THROUGH B-37

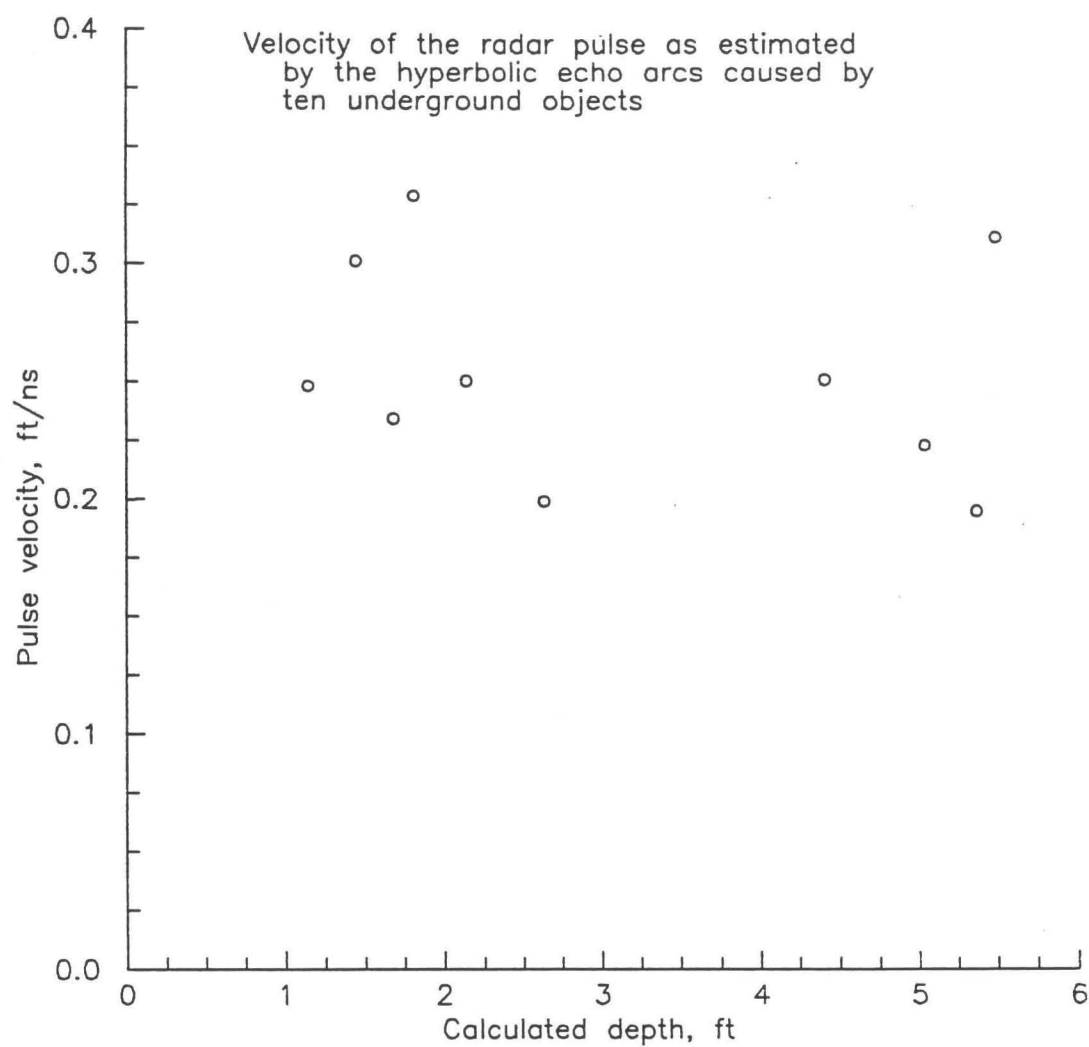


Figure -1

FIGURE B-1

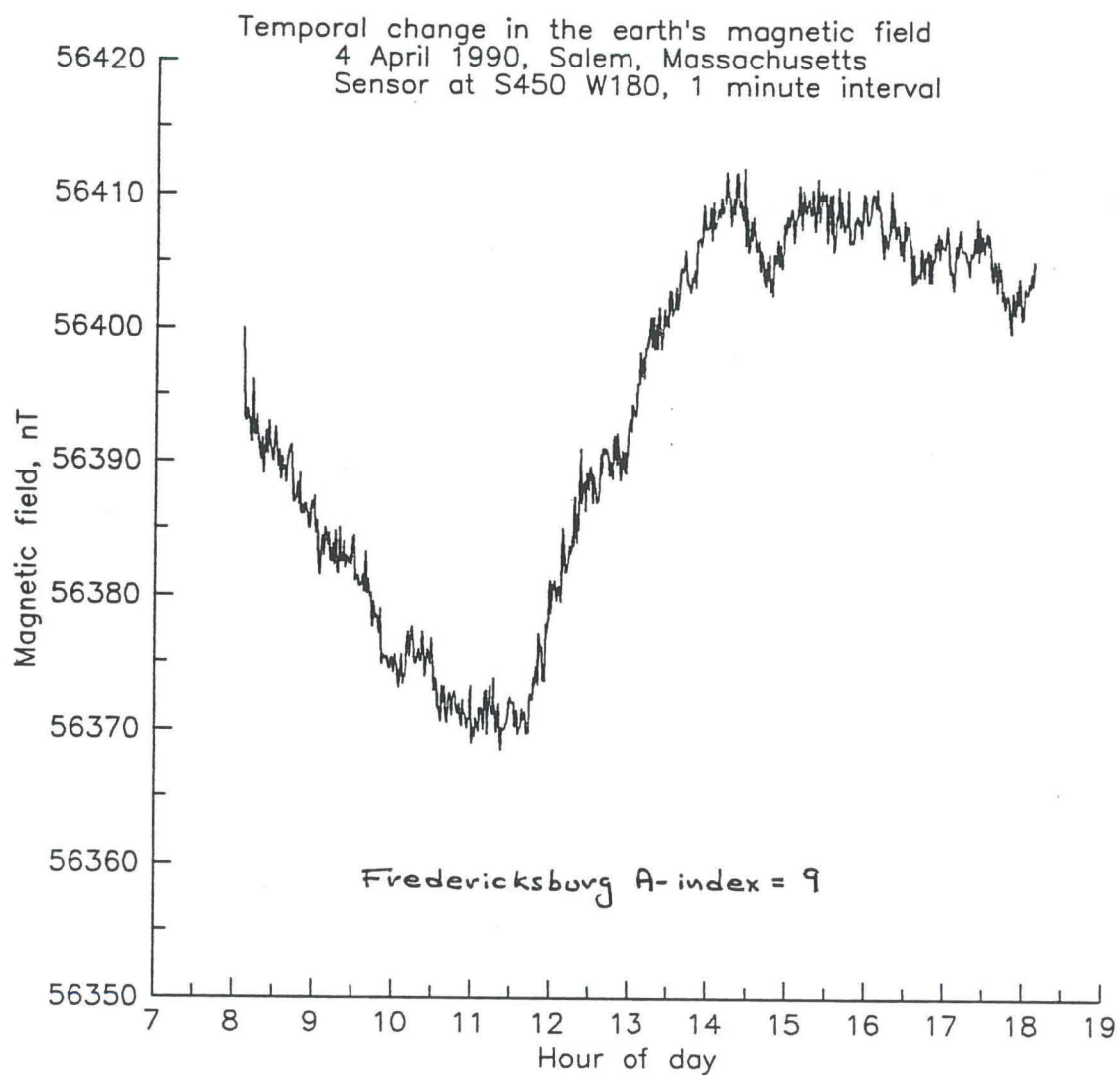
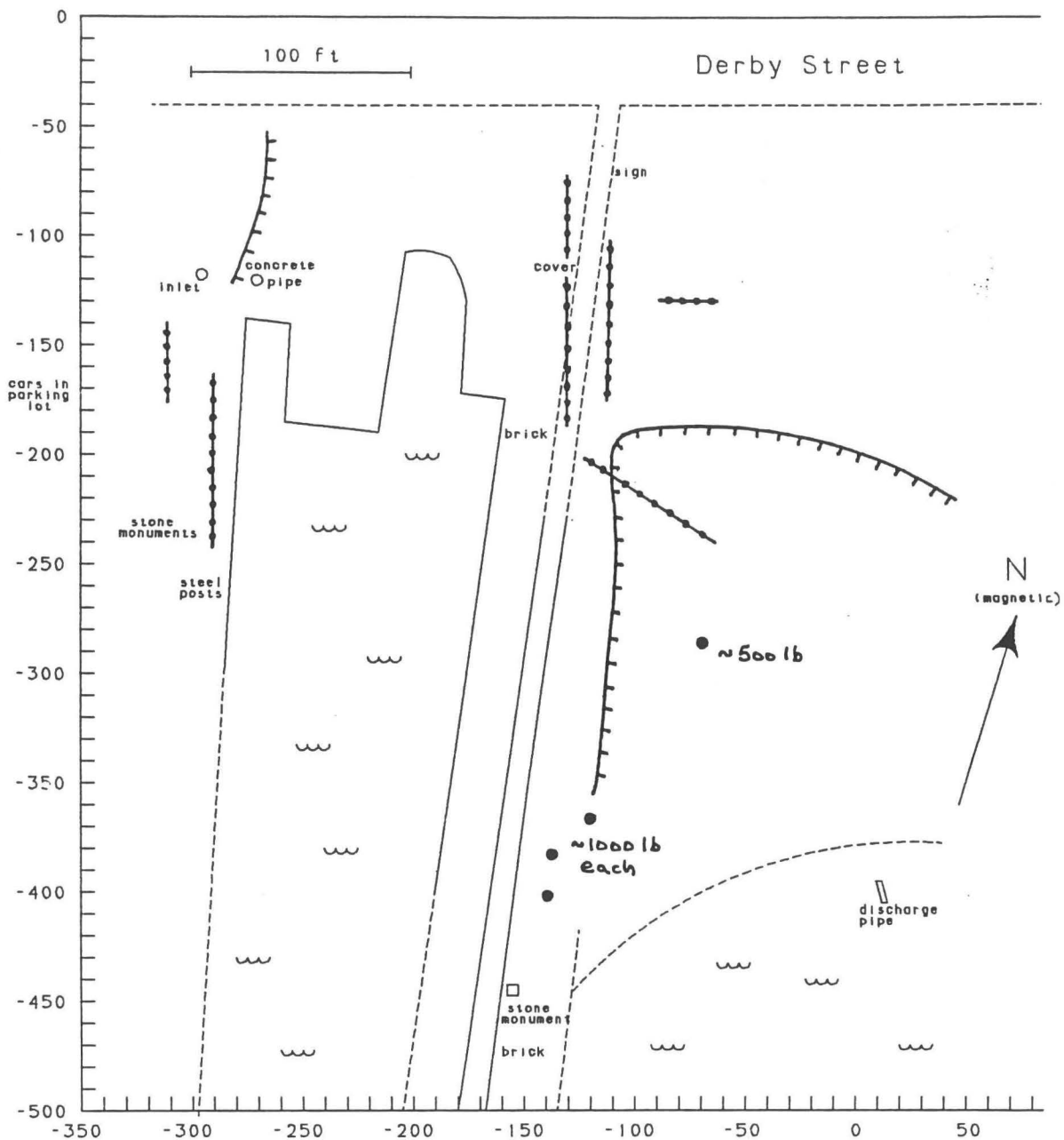


Figure 2

FIGURE B-2

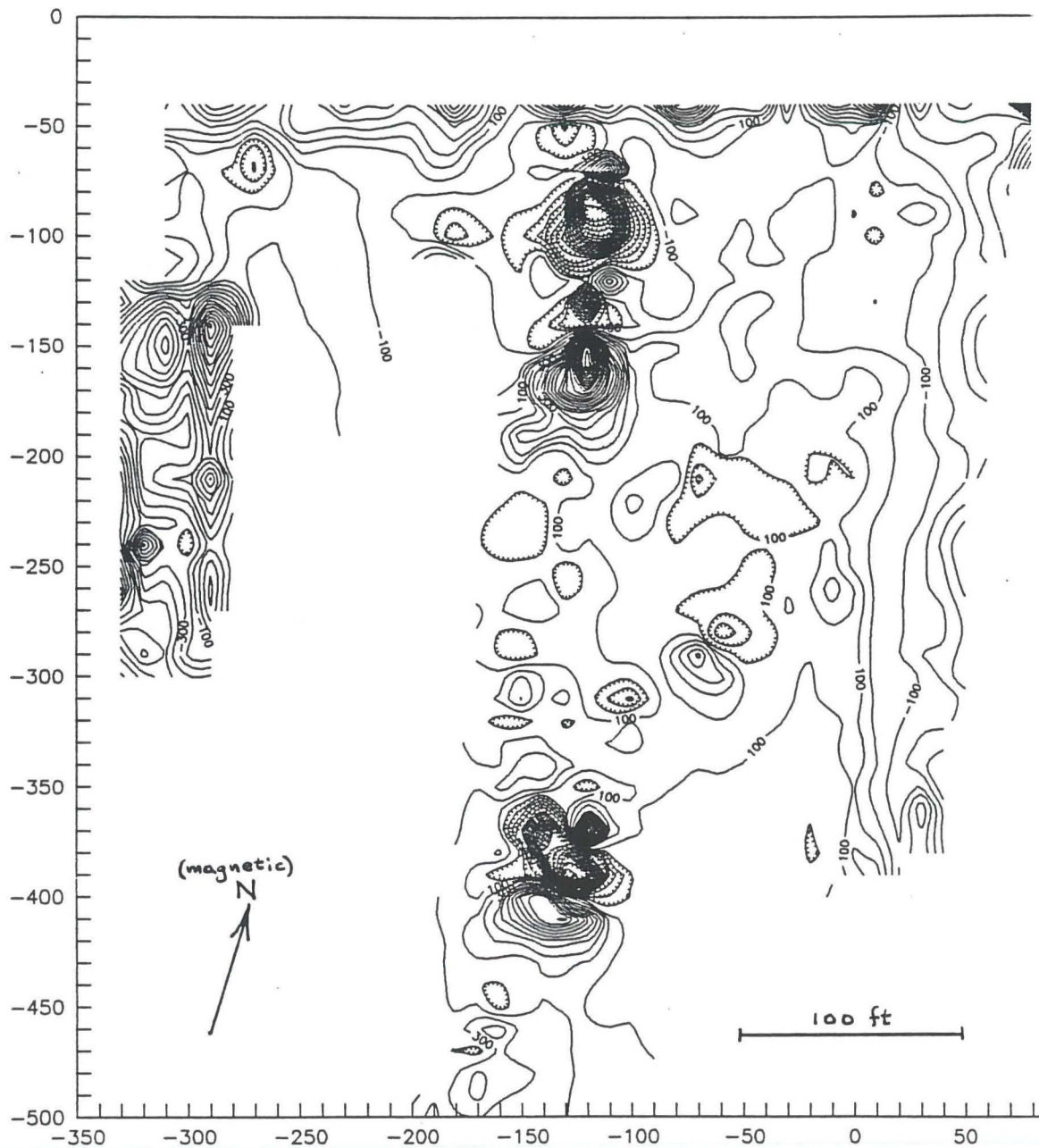


Geophysical Findings, wharf area, survey 4-8 Apr 90

- magnetic mass, showing estimated iron weight
 - ||||| resistivity boundary, tic marks on low resistivity
 - conductive lineament, probably pipe
- Figure 3

FIGURE B-3

Magnetic field, 100 nT contours, height = 8 ft

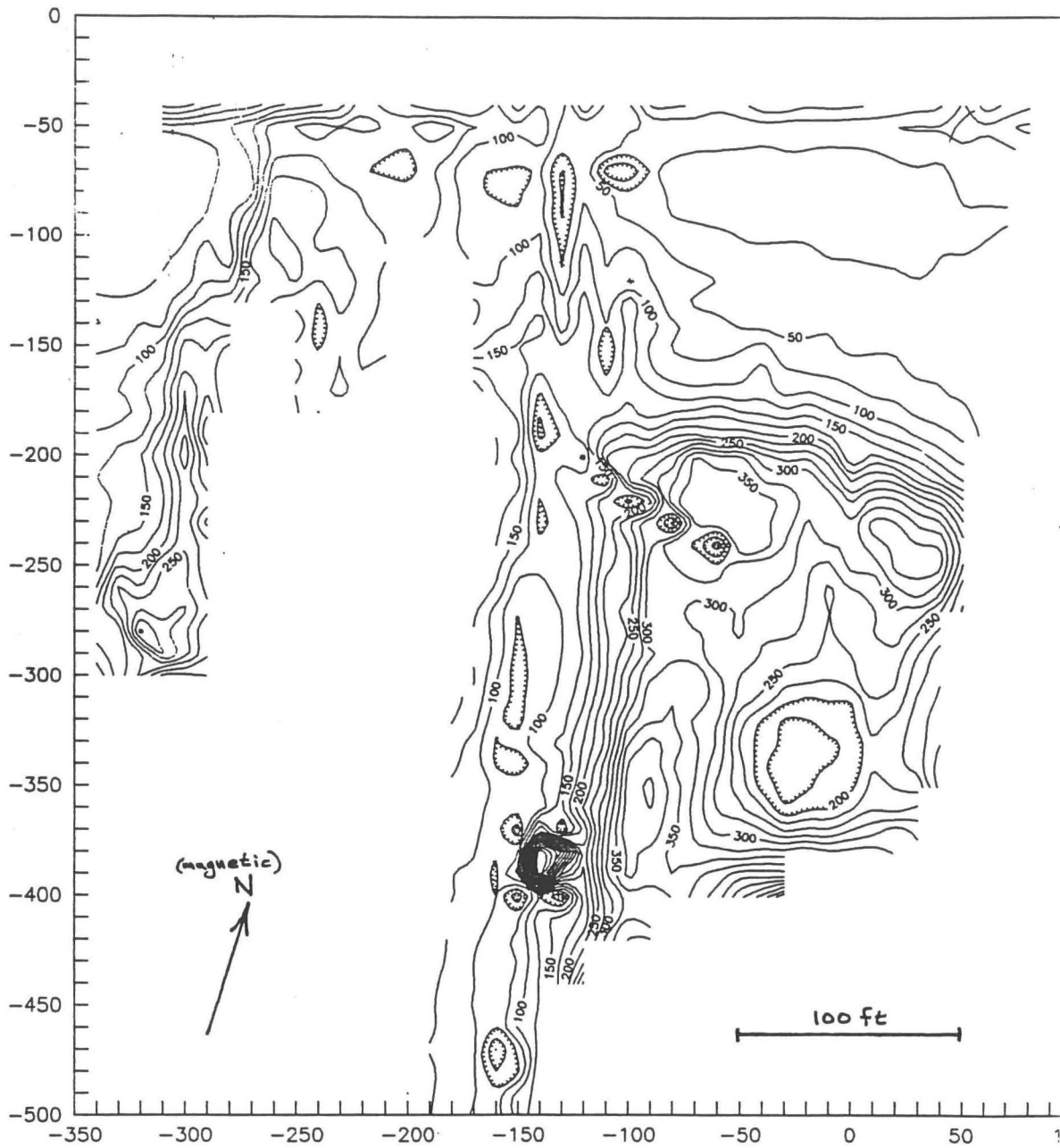


Measurement spacing = 10 ft, traverse → N
Survey 7 Apr 90, temporal correction
total magnetic field, average ~ 56,200 nT

Figure 4

FIGURE B-4

EM31 conductivity, average, 25 mS/m contours

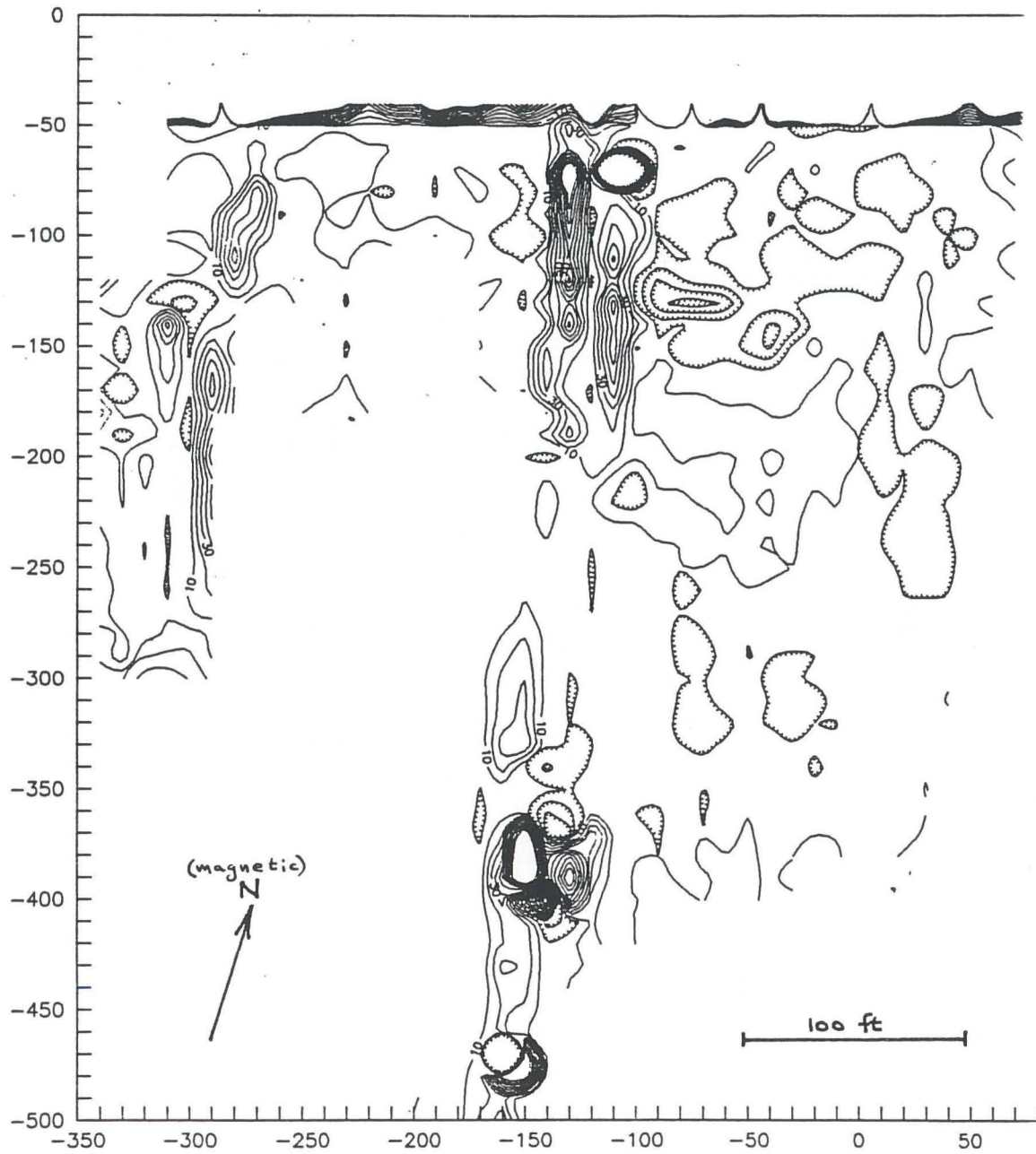


measurement spacing = 10 ft, traverse N-S
 dipoles vertical, bar height ~ 1 m
 plot is $\frac{1}{2} (N+E)$
 Survey 4 Apr 90

Figure 5

FIGURE B-5

EM31 conductivity, directionality, 10% contours

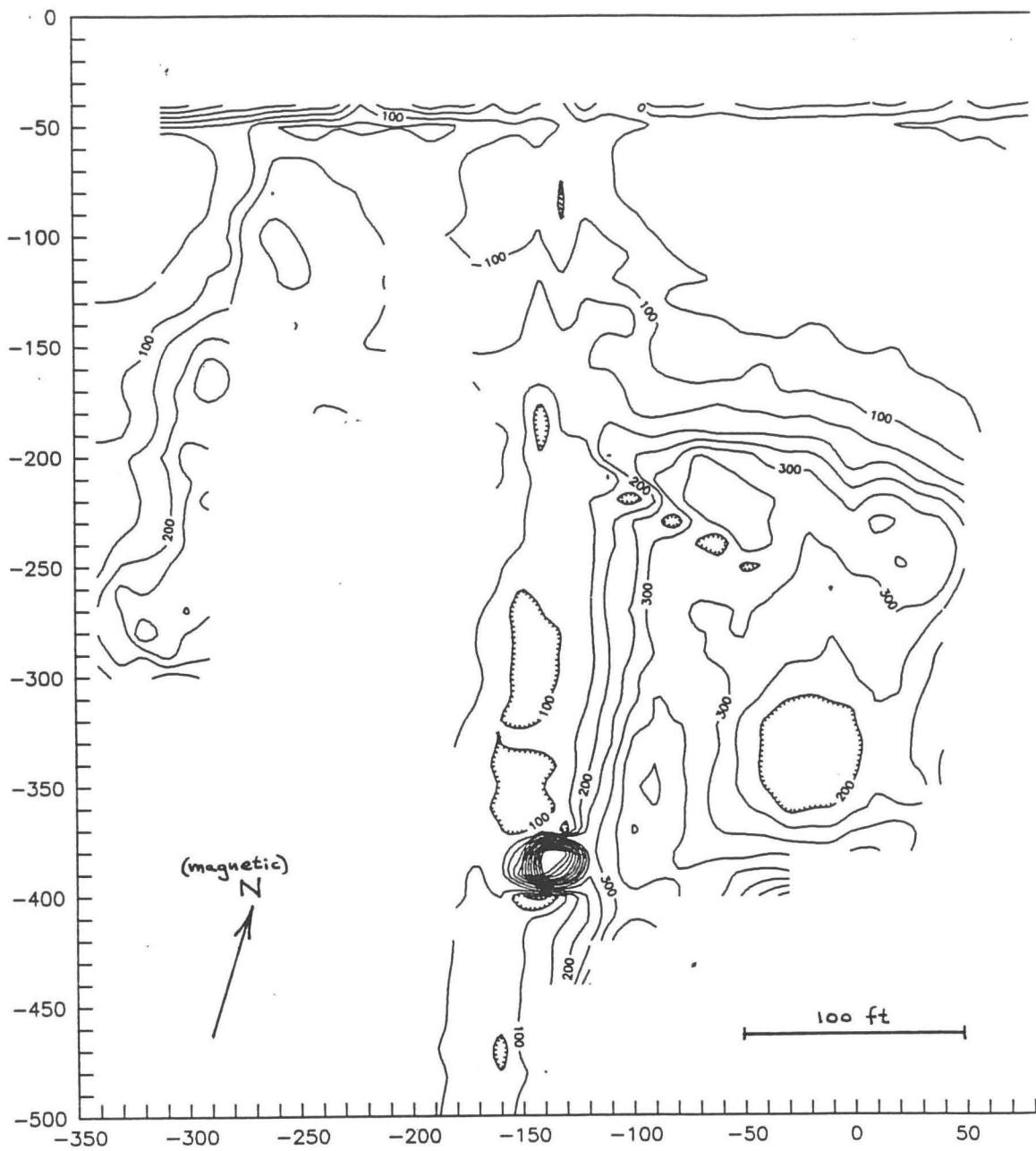


measurement spacing = 10 ft, traverse N-S
dipoles vertical, bar height ~ 1 m
plot is $100 (N-E)/(N+E)$
Survey 4 Apr 90

Figure 6

FIGURE B-6

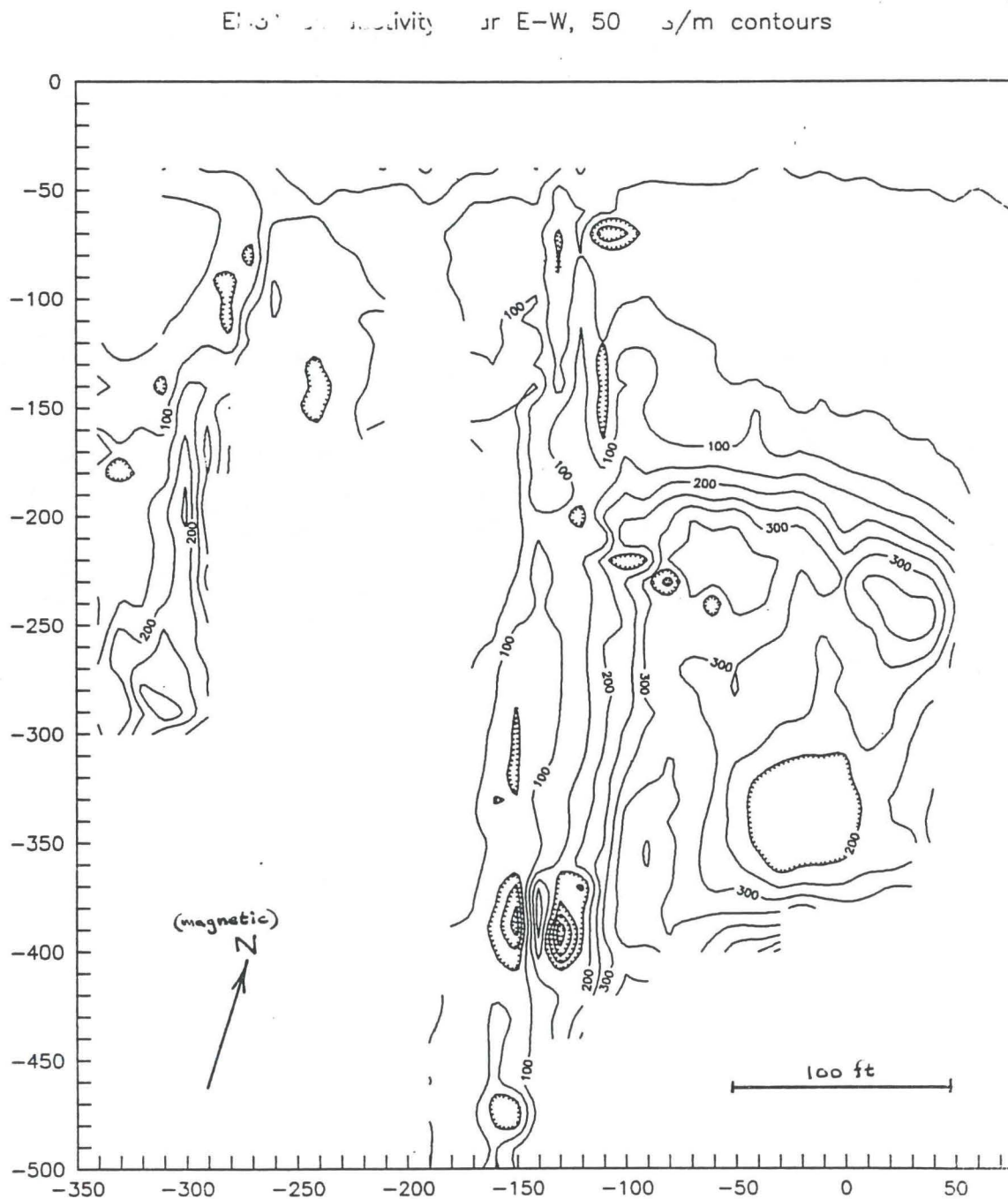
EM31 conductivity, bar N-S, 50 mS/m contours



measurement spacing = 10 ft, traverse N-S
dipoles vertical, bar height ~ 1 m
plot is N
survey 4 Apr 90

Figure 7

FIGURE B-7



measurement spacing = 10 ft, traverse N-S
dipoles vertical, bar height ~ 1 m
plot is E
Survey 4 Apr 90

Figure 8

FIGURE B-8

Figure 9

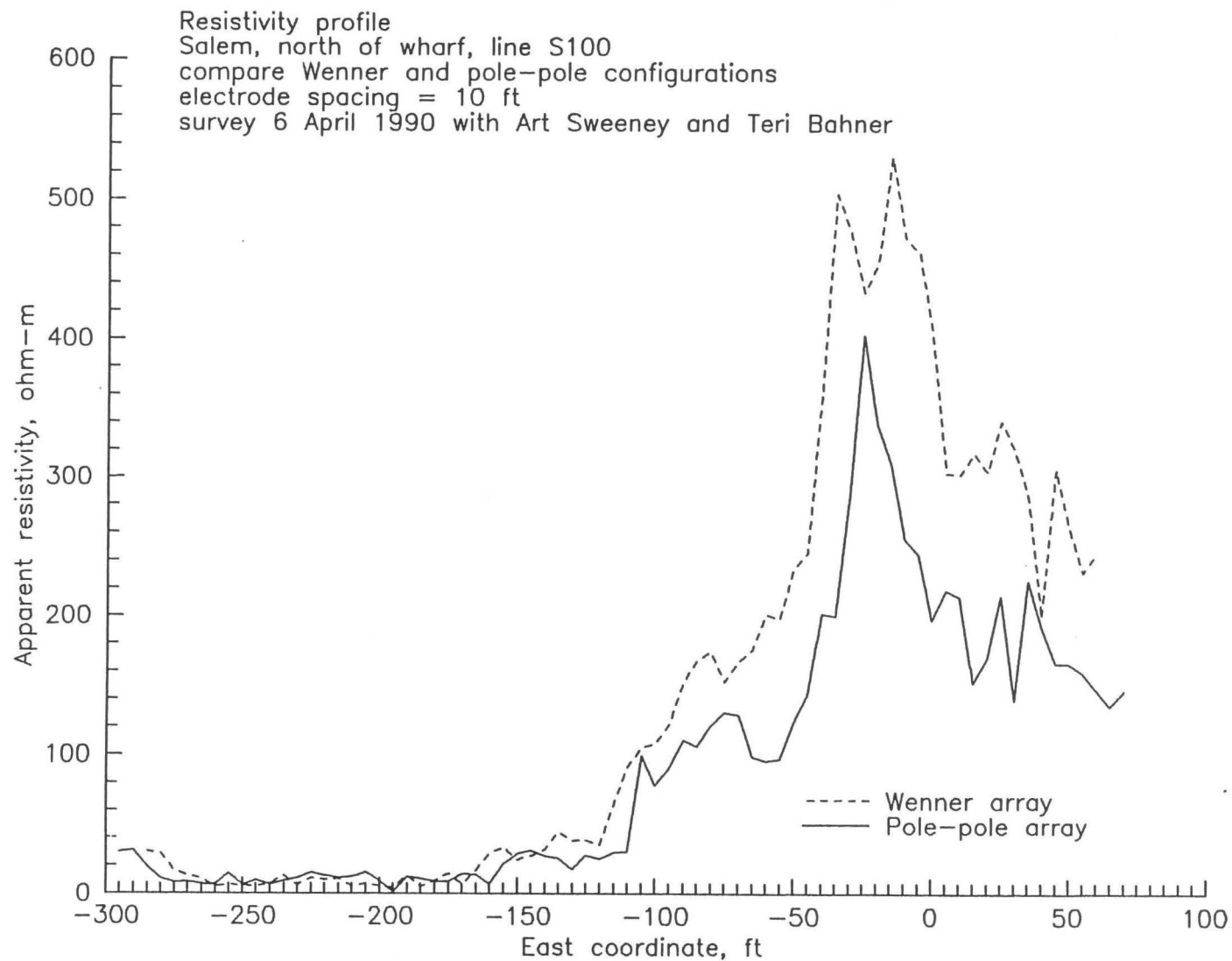


FIGURE B-9

Figure 10

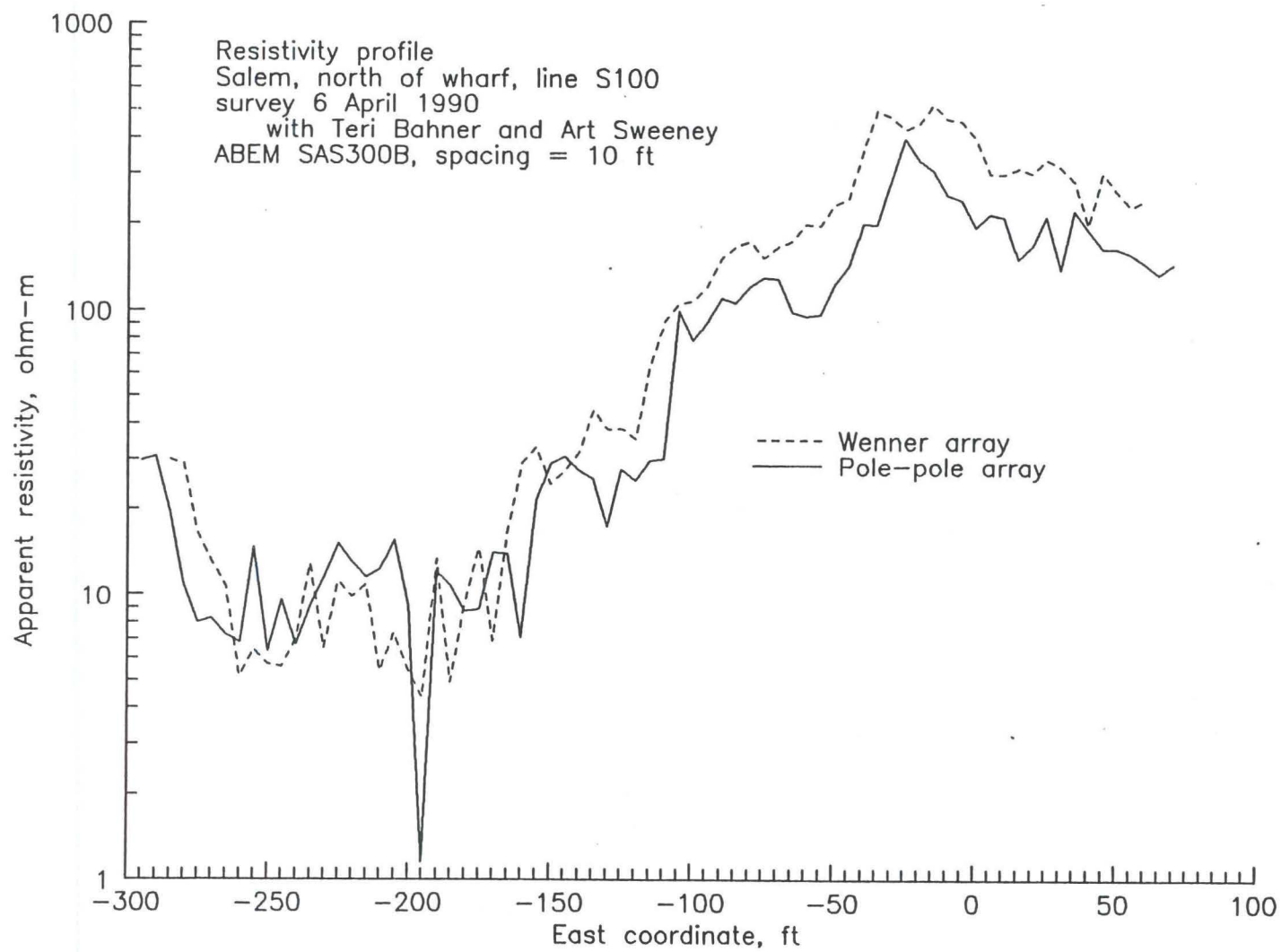


FIGURE B-10

Figure 11

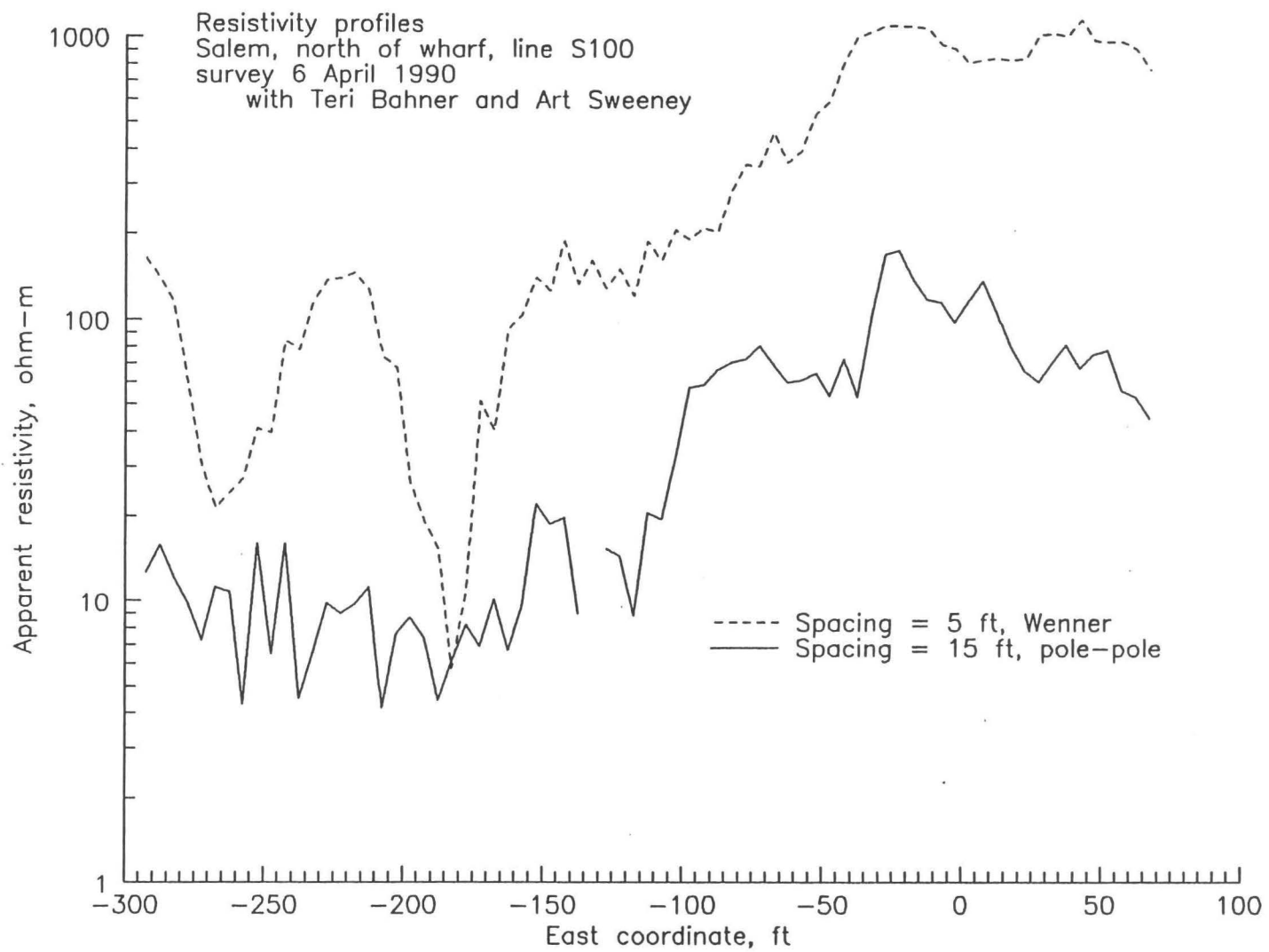


FIGURE B-11

Figure 12

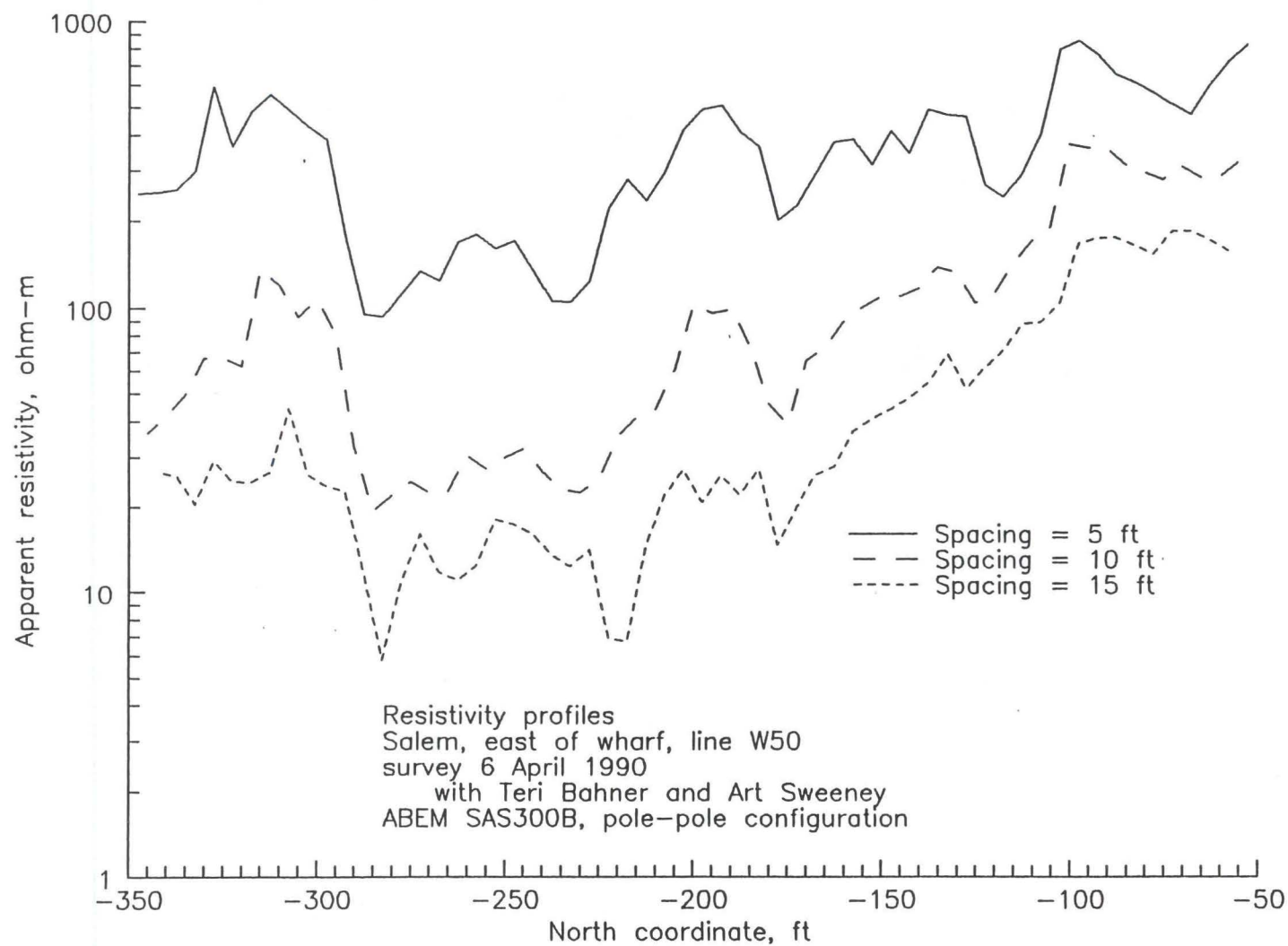


FIGURE B-12

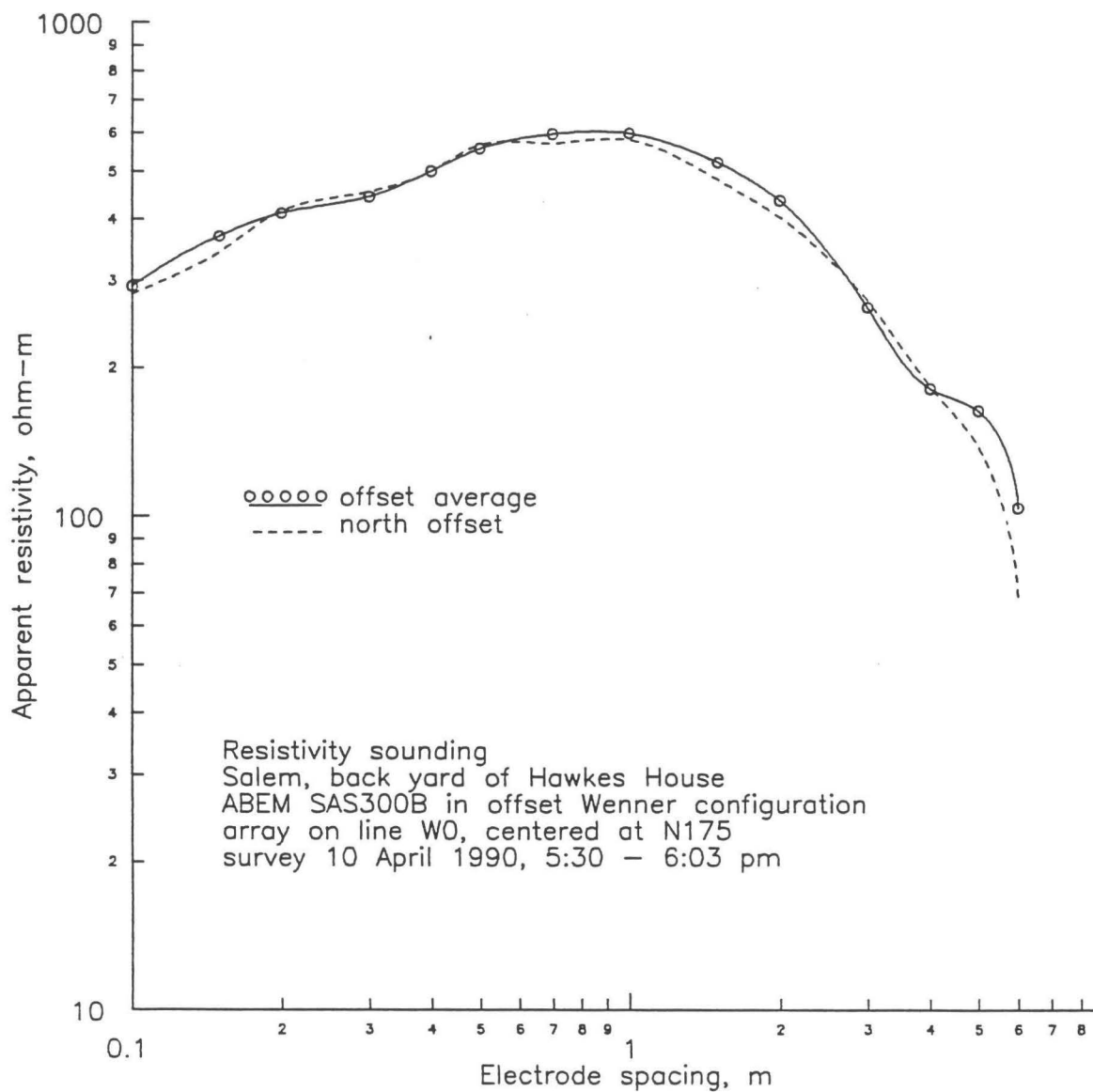


Figure 13

FIGURE B-13

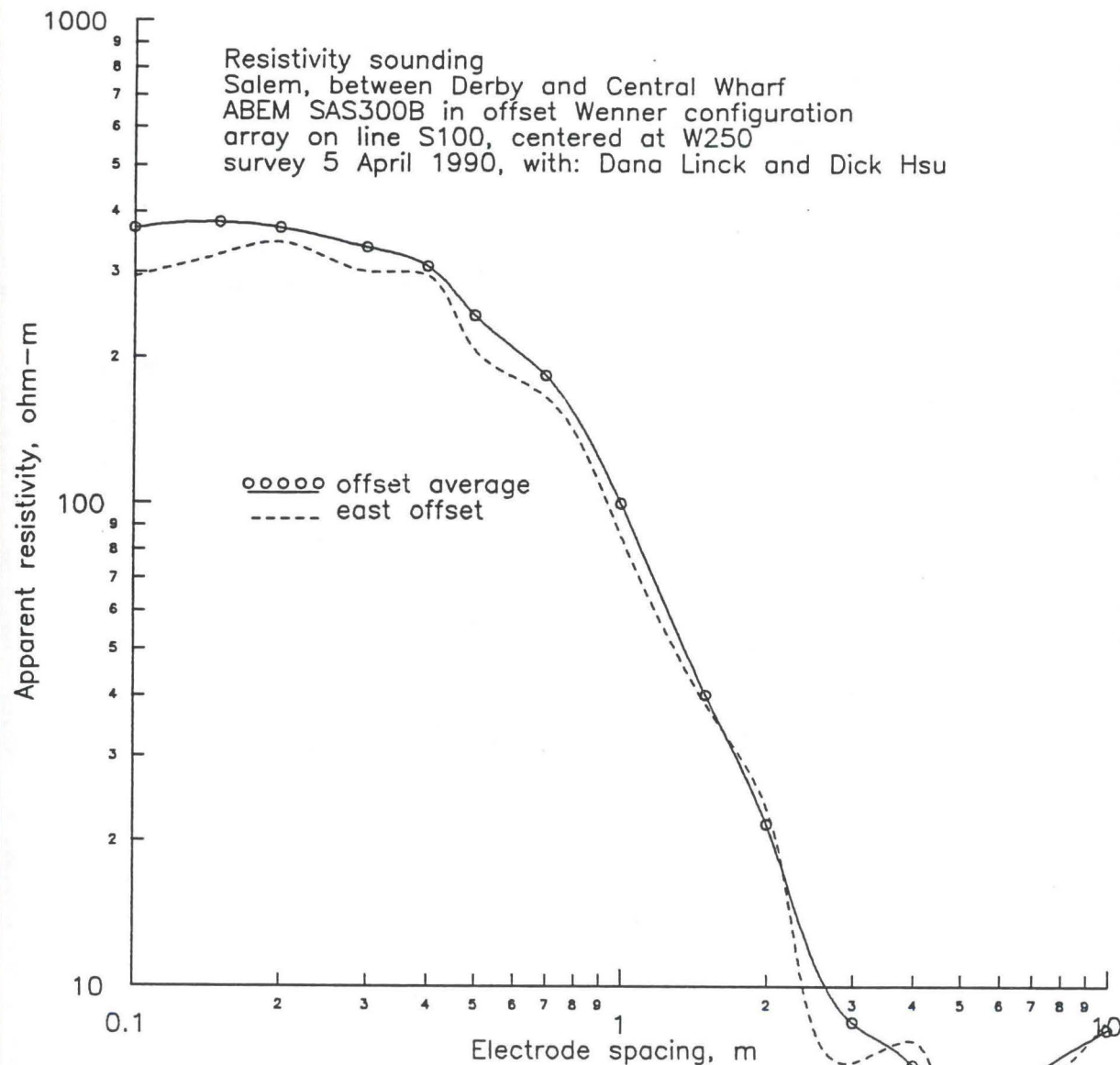


Figure 14

FIGURE B-14

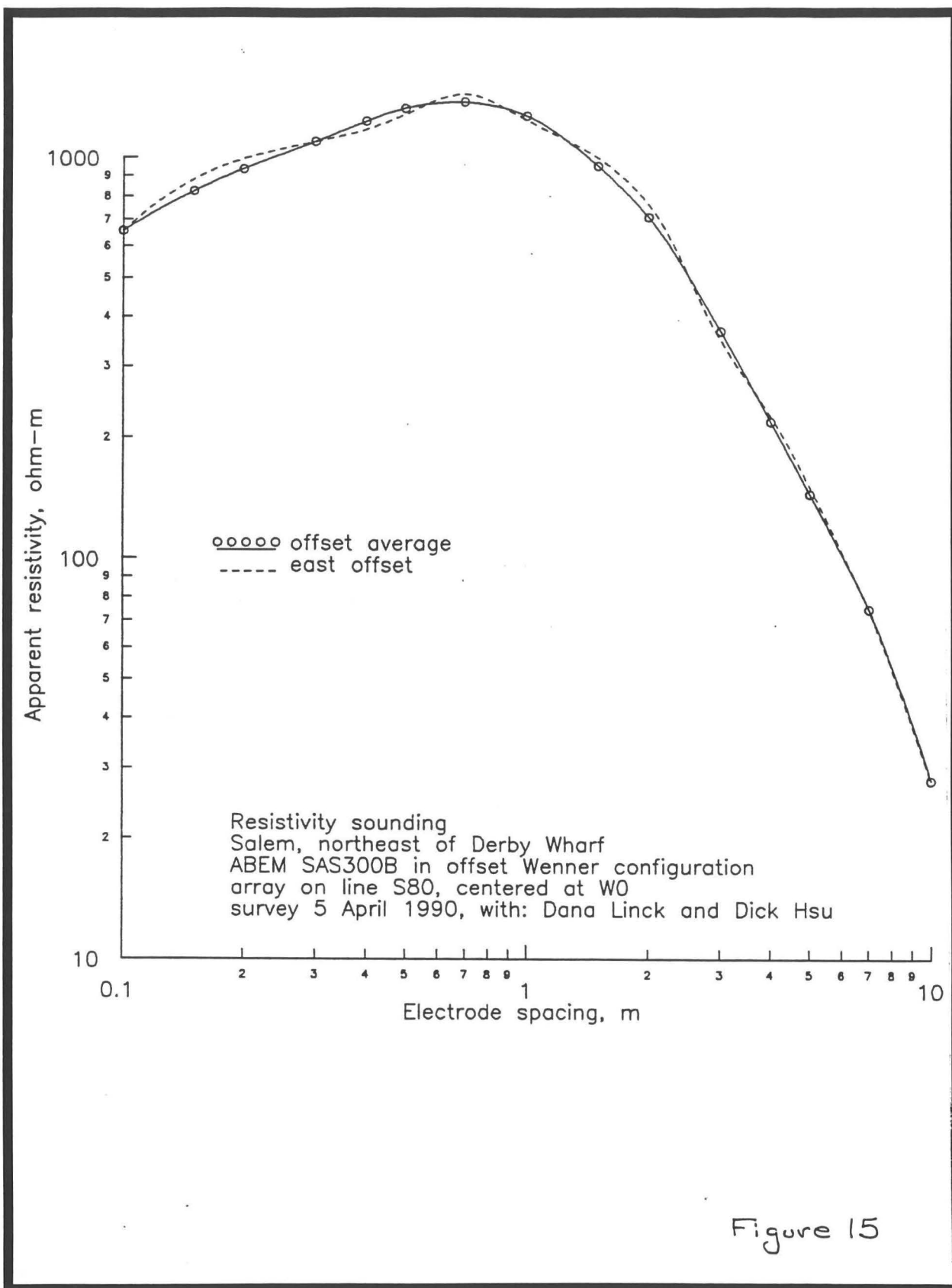


FIGURE B-15

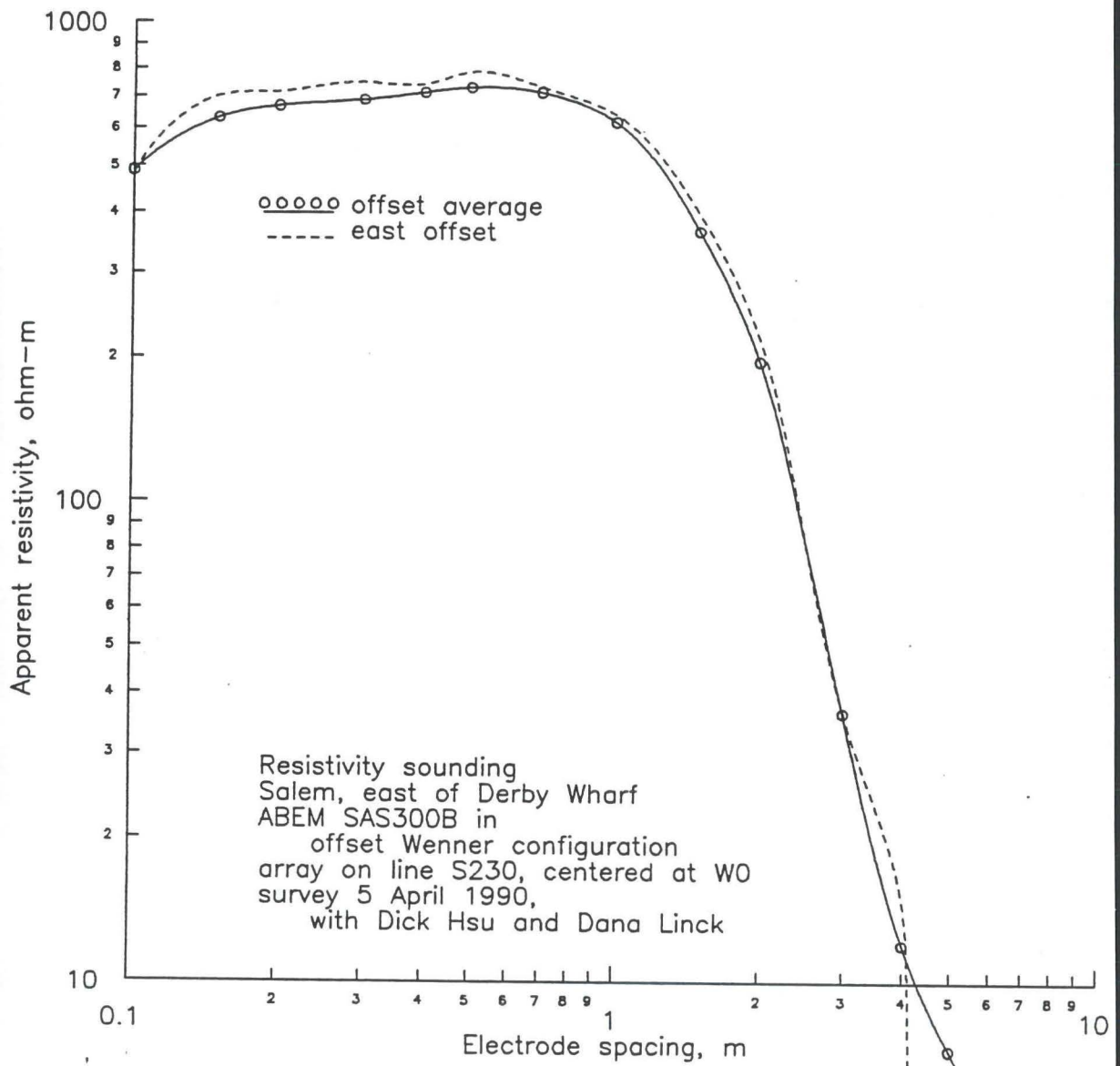
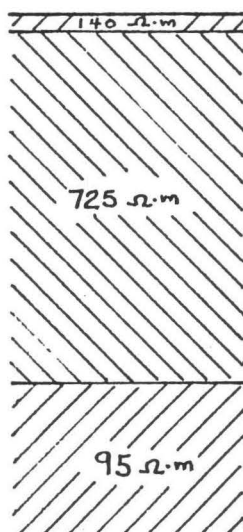


Figure 16

FIGURE B-16

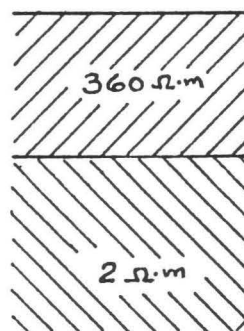
back yard
of Hawkes House

W0, N175



between Derby
and Central Wharf

S100, W250



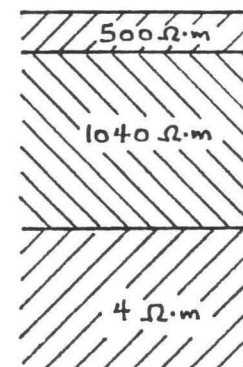
northeast of
Derby Wharf

S80, W0



east of
Derby Wharf

S230, W0



Depth,
ft

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

Models for the
Resistivity Soundings

Figure 17

FIGURE B-17

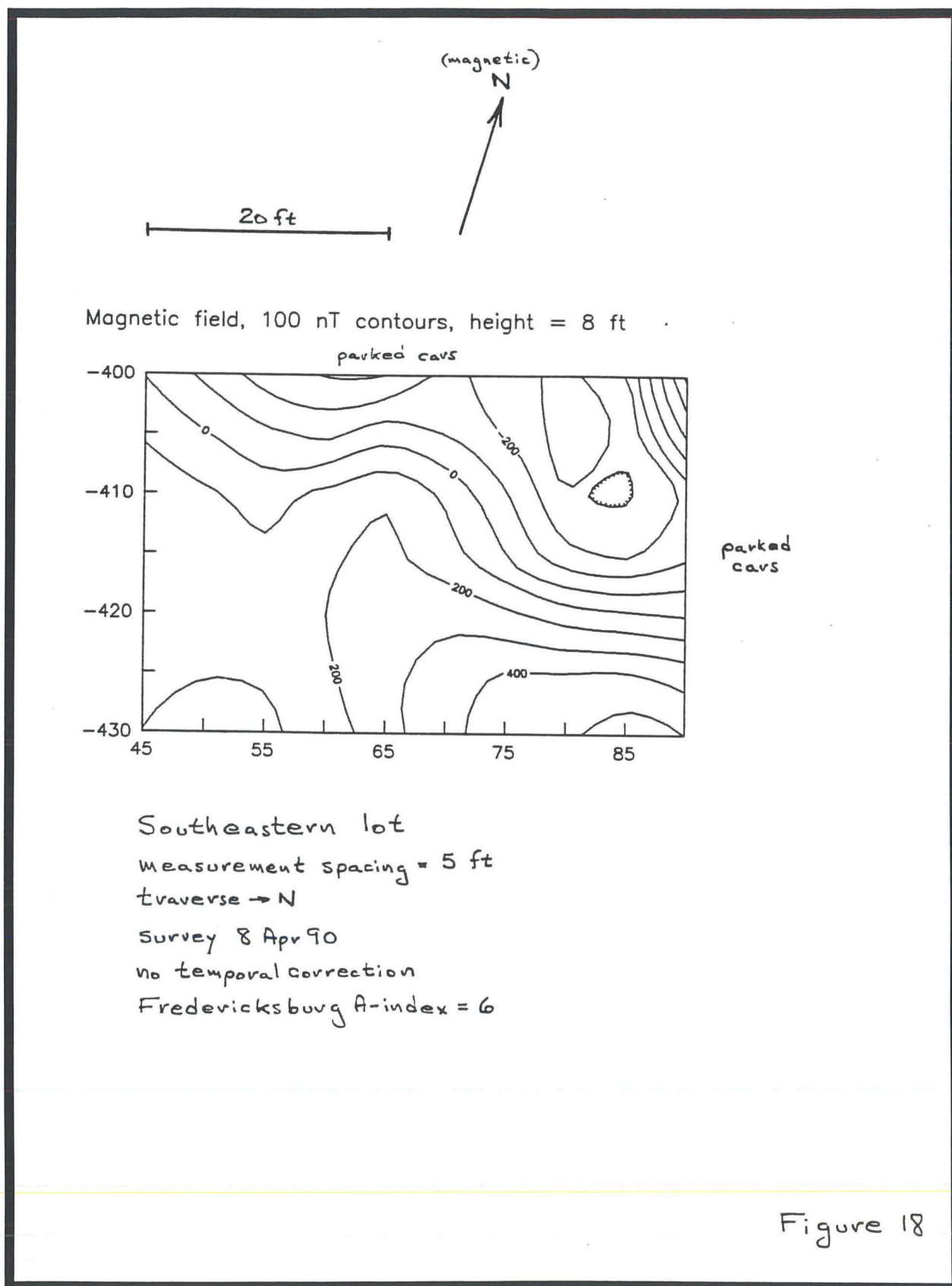
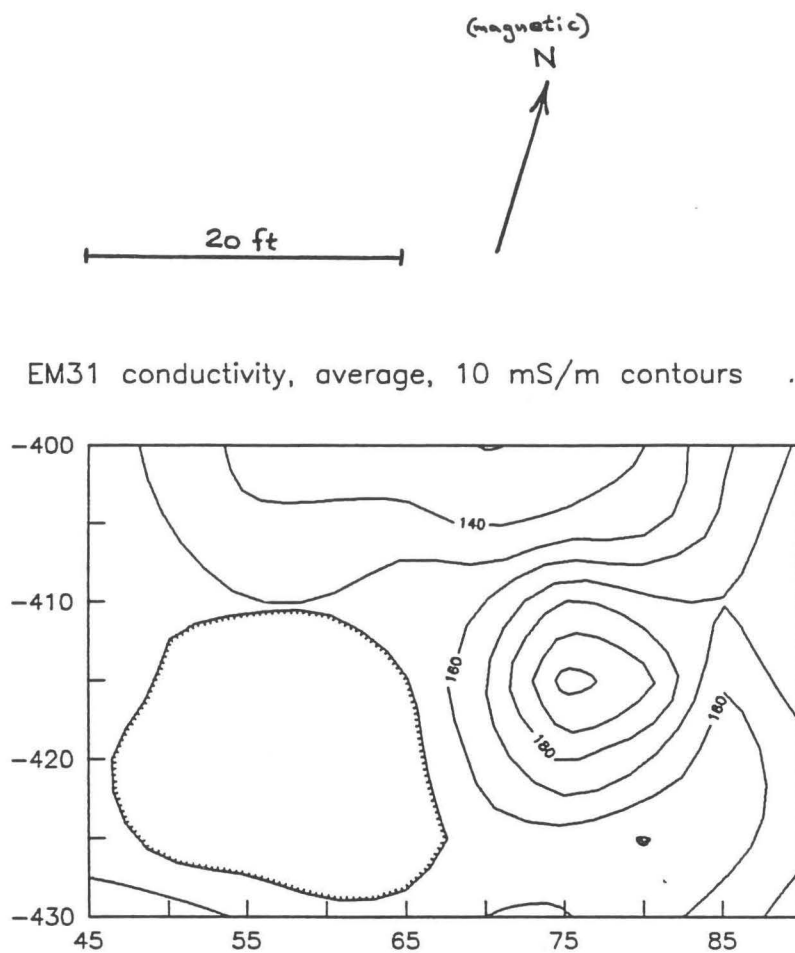


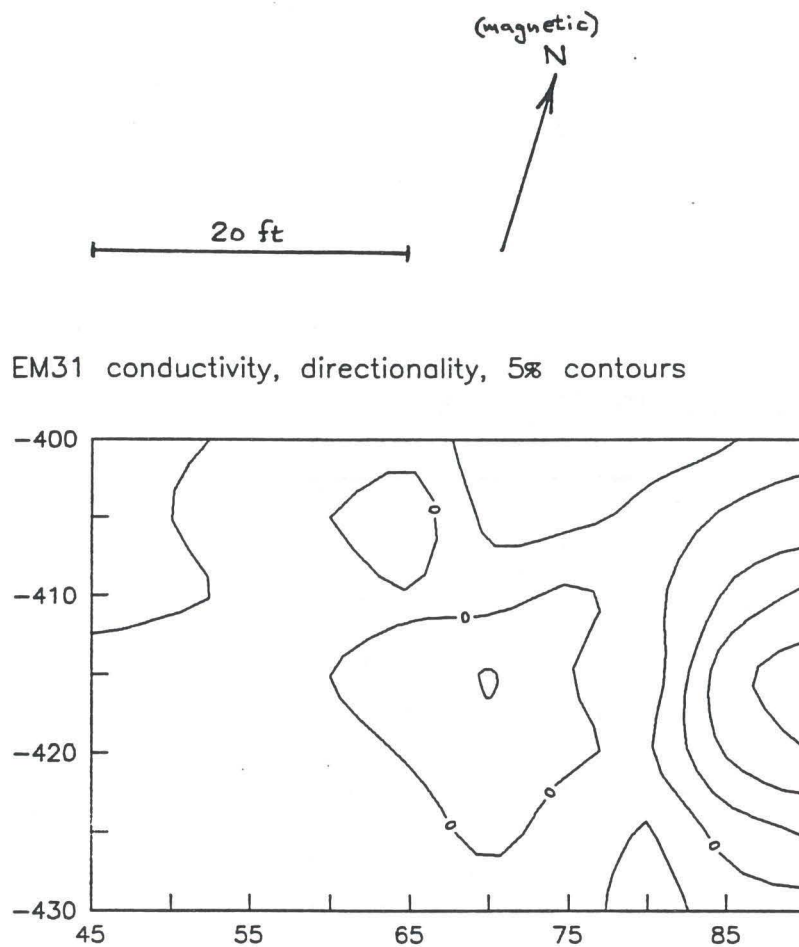
FIGURE B-18



Southeastern lot
 measurement spacing = 5 ft
 traverse N ↔ S
 survey 8 Apr 90
 bar height ~ 1m, dipoles vertical
 plot is $\frac{1}{2}(N+E)$
 N = reading with bar N-S
 E = reading with bar E-W

Figure 19

FIGURE B-19

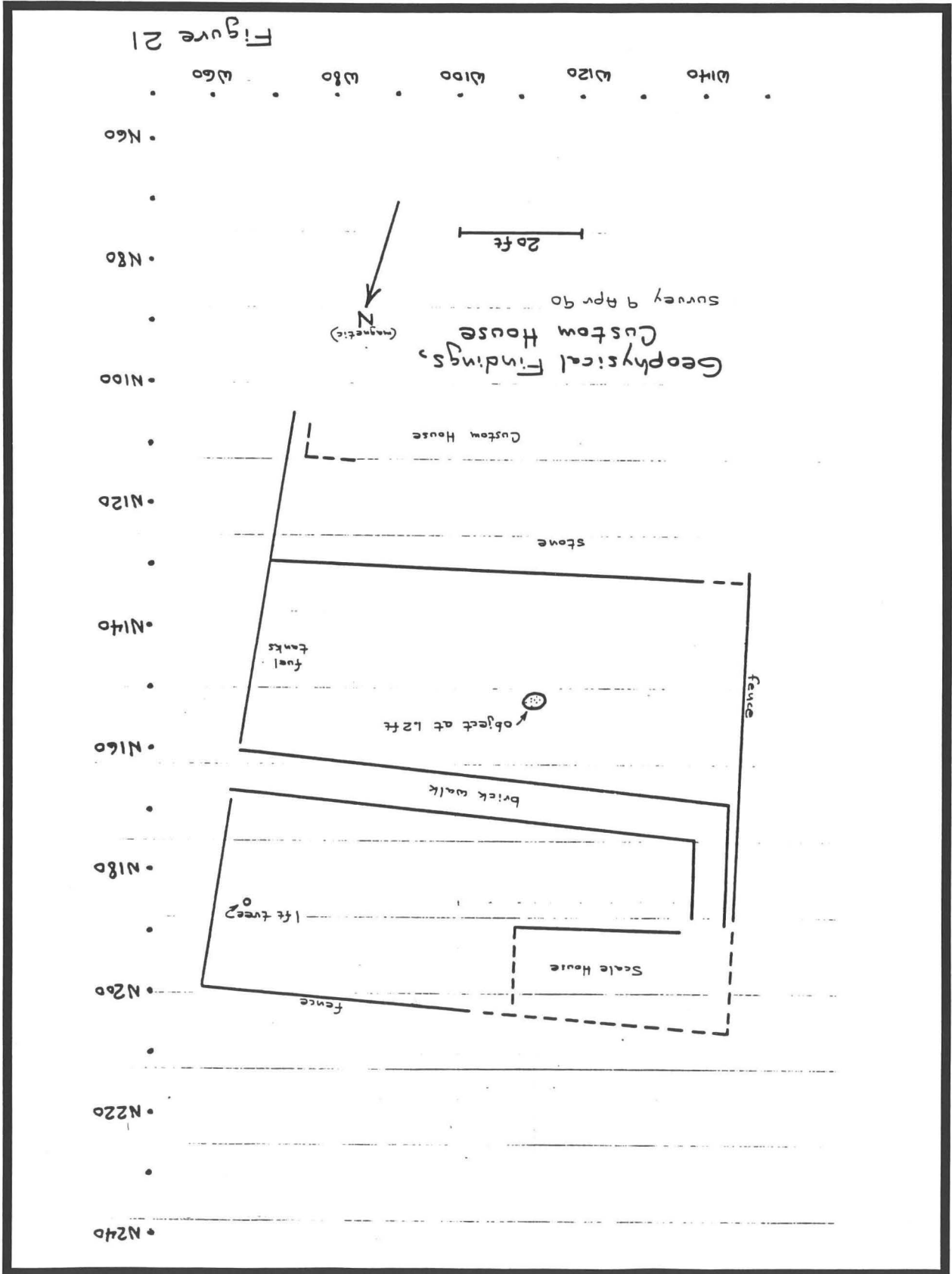


EM31 conductivity, directionality, 5% contours

Southeastern lot
 measurement spacing = 5 ft
 traverse N ↔ S
 survey 8 Apr 90
 bar height ~ 1 m, dipoles vertical
 plot is $100 (N - E) / (N + E)$
 N = reading with bar N-S
 E = reading with bar E-W

Figure 20

FIGURE B-21



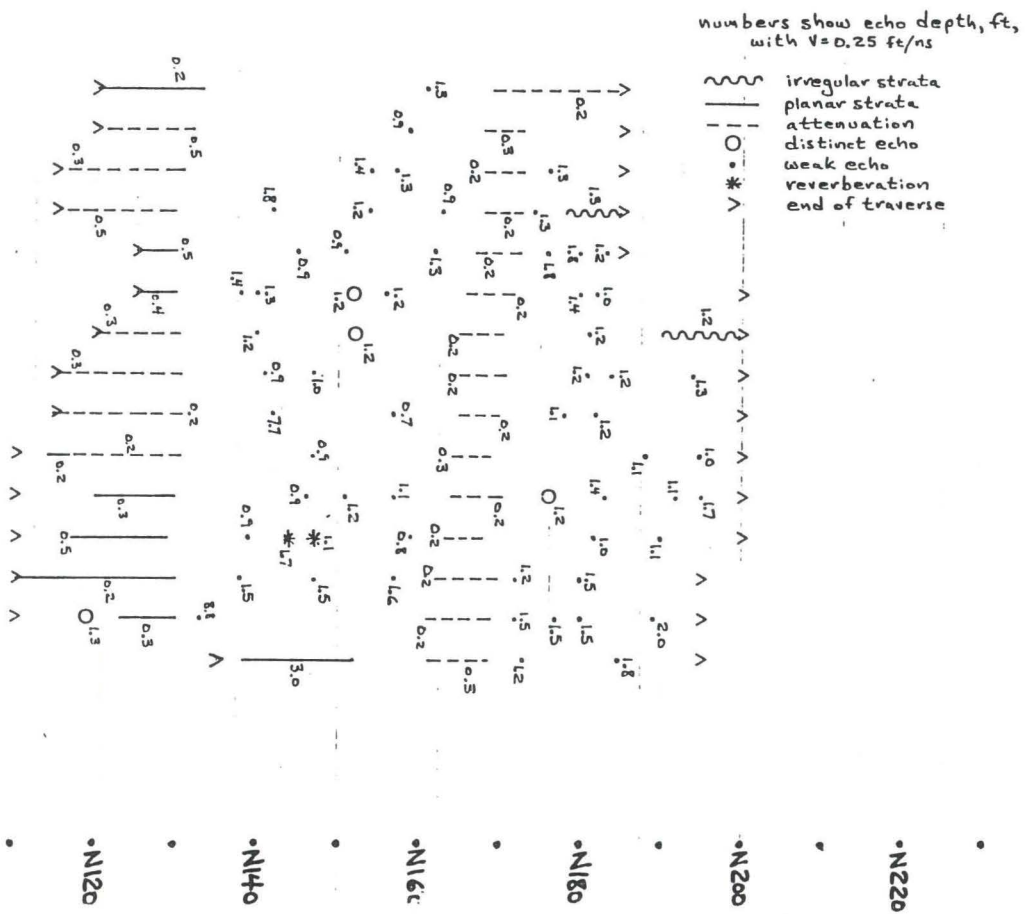


Figure 22

Salem, Custom House
line W115
markers at 5 ft intervals
model 3102 (315 MHz) antenna
Survey 9 Apr 90

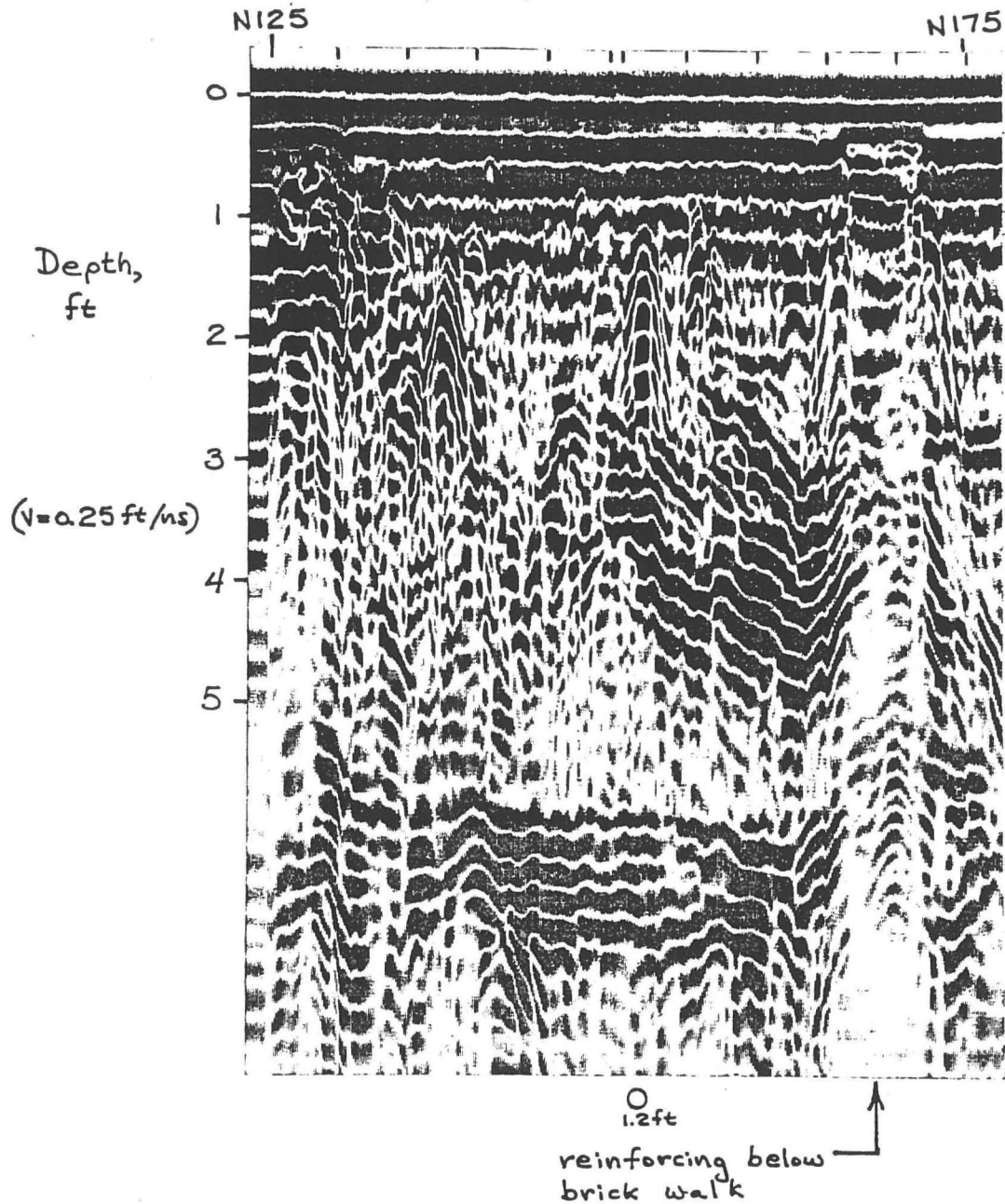


Figure 23

FIGURE B-23

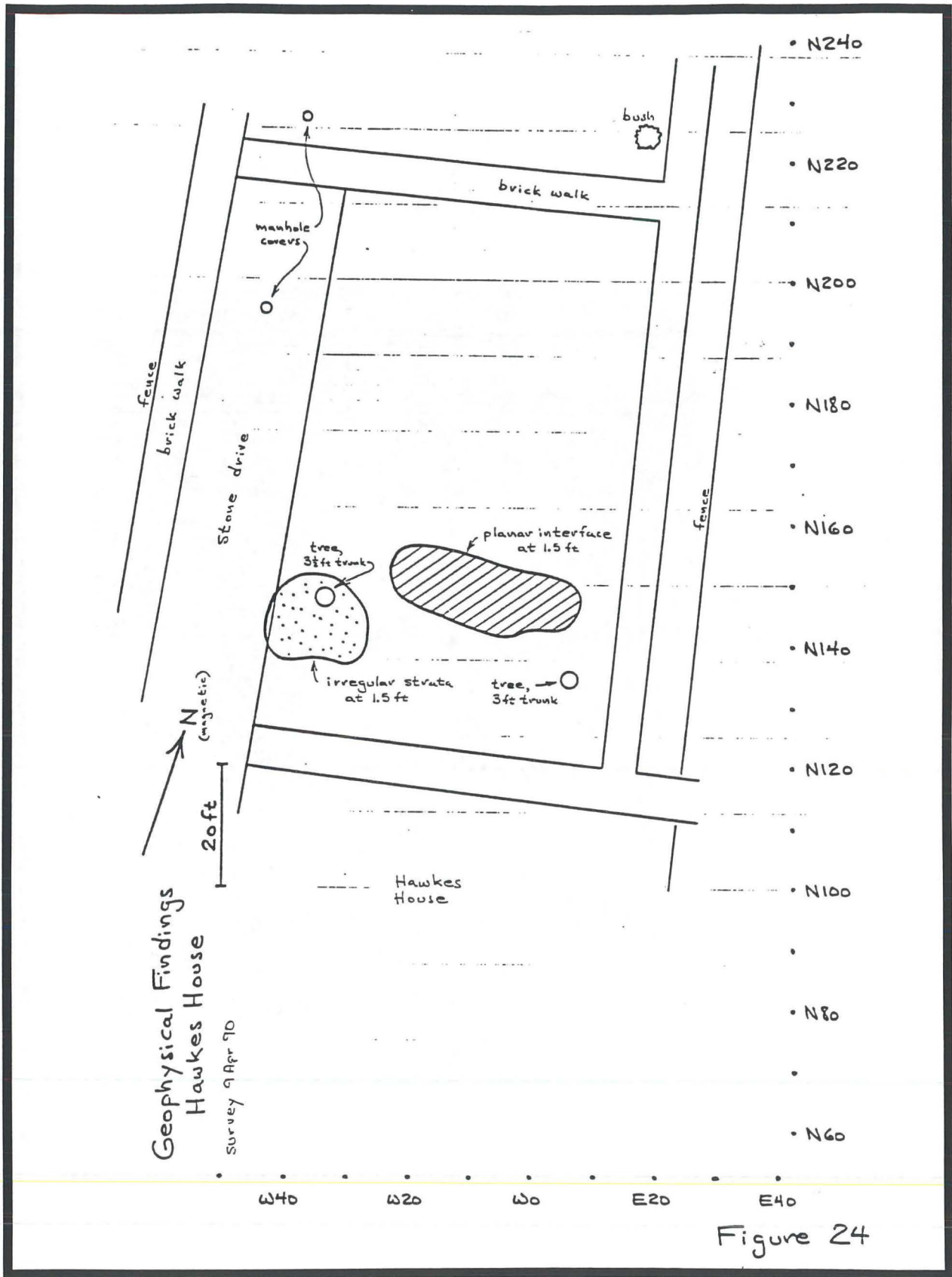


FIGURE B-24

Survey 9 Apr 90 with
SIR System-7 radar
numbers show echo depth, ft,
with $v = 0.25 \text{ ft/ns}$

Survey 9 Apr 90 with
SIR System-7 radar
numbers show echo depth, ft,
with $v = 0.25 \text{ ft/ns}$

- ~~~~~ complex strata
- ~~~~~ irregular strata
- _____ planar interface
- attenuation
- ⊙ very strong echo
- distinct echo
- weak echo
- > end of traverse

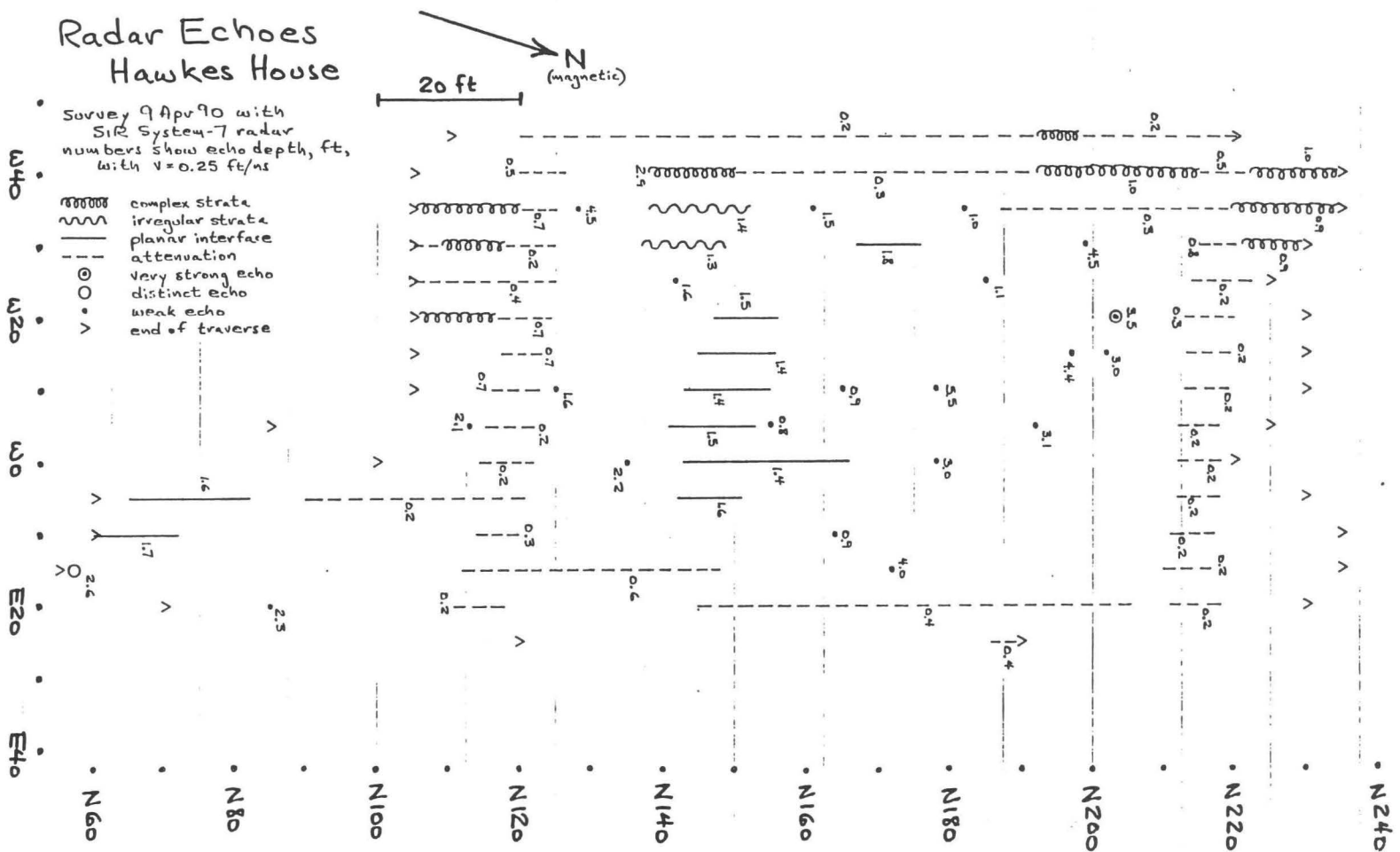


Figure 25

Dalem, north of Hawkes House, line W0
 markers at 5 ft intervals, model 3102 (315 MHz) antenna
 Survey 9 Apr 90

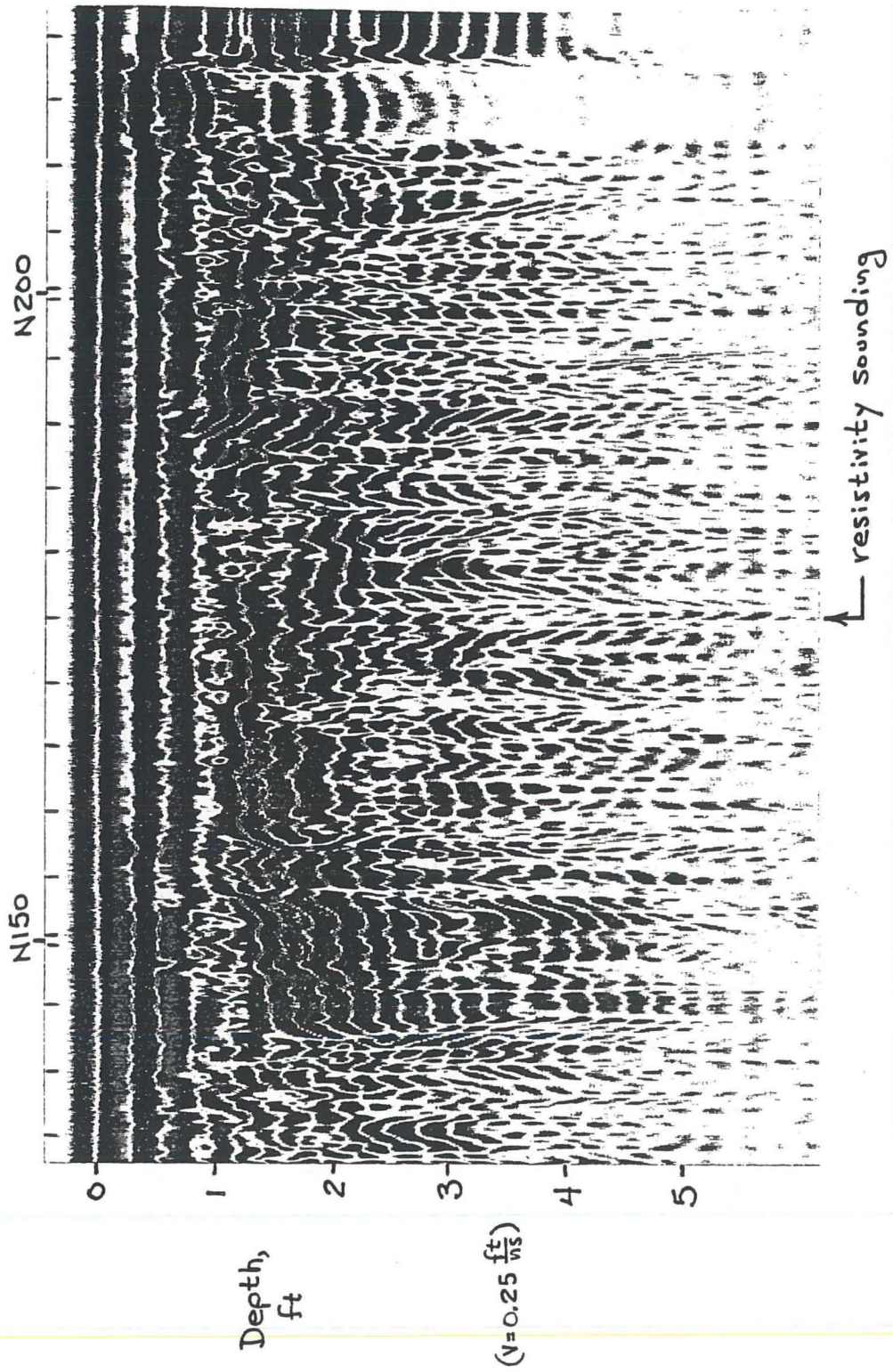


Figure 26

Geophysical Findings

Narbonne House

Survey 9 Apr 90

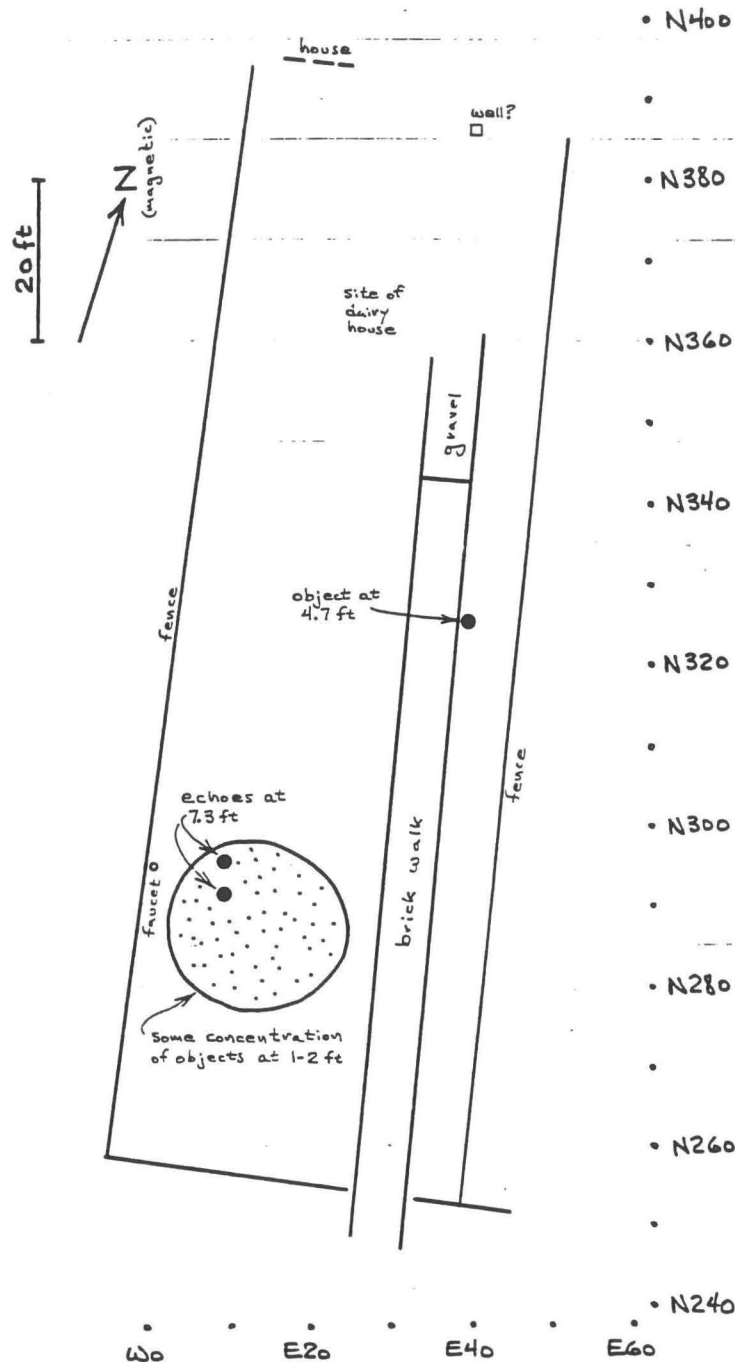


Figure 27

FIGURE B-27

Radar Echoes Narbonne House

Survey 9 Apr 90

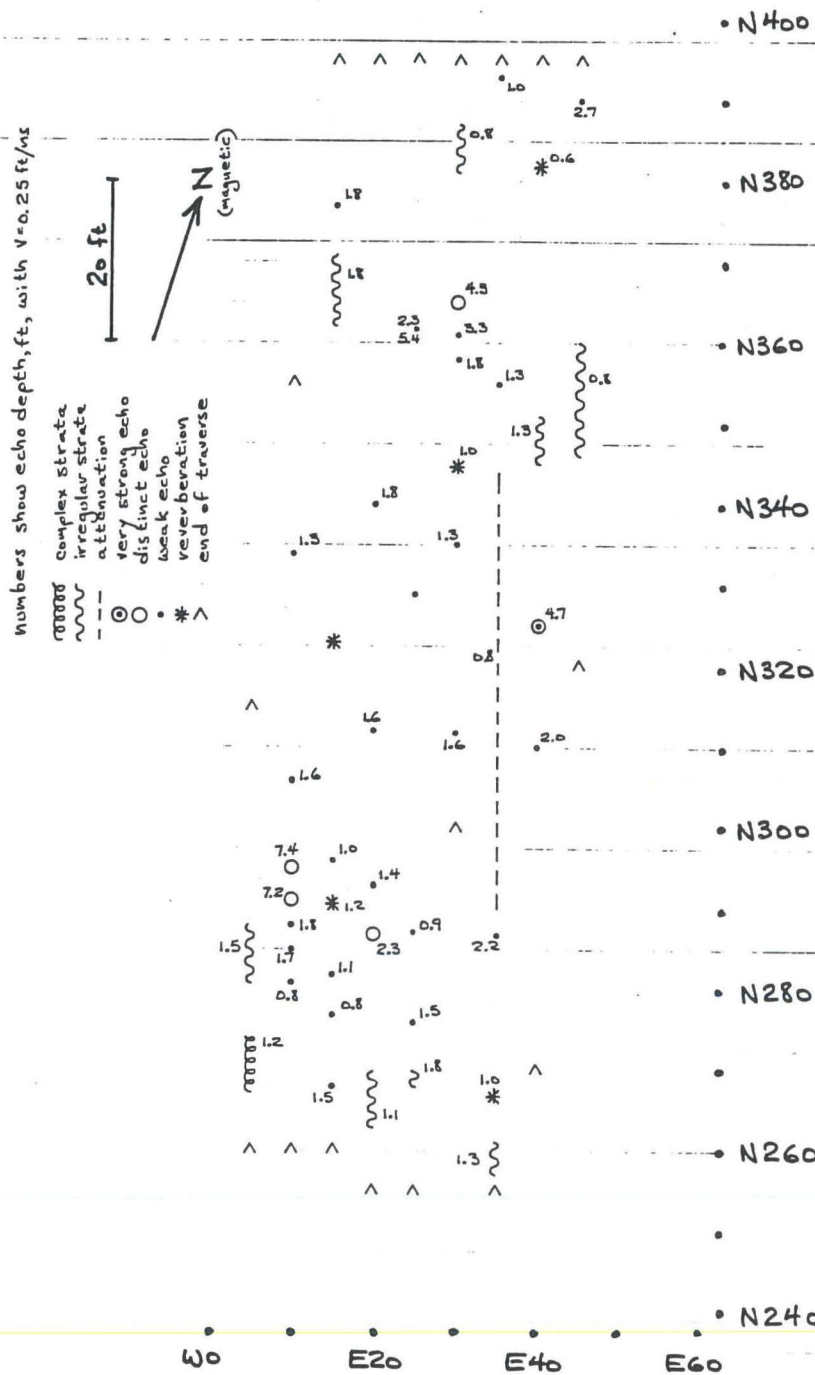
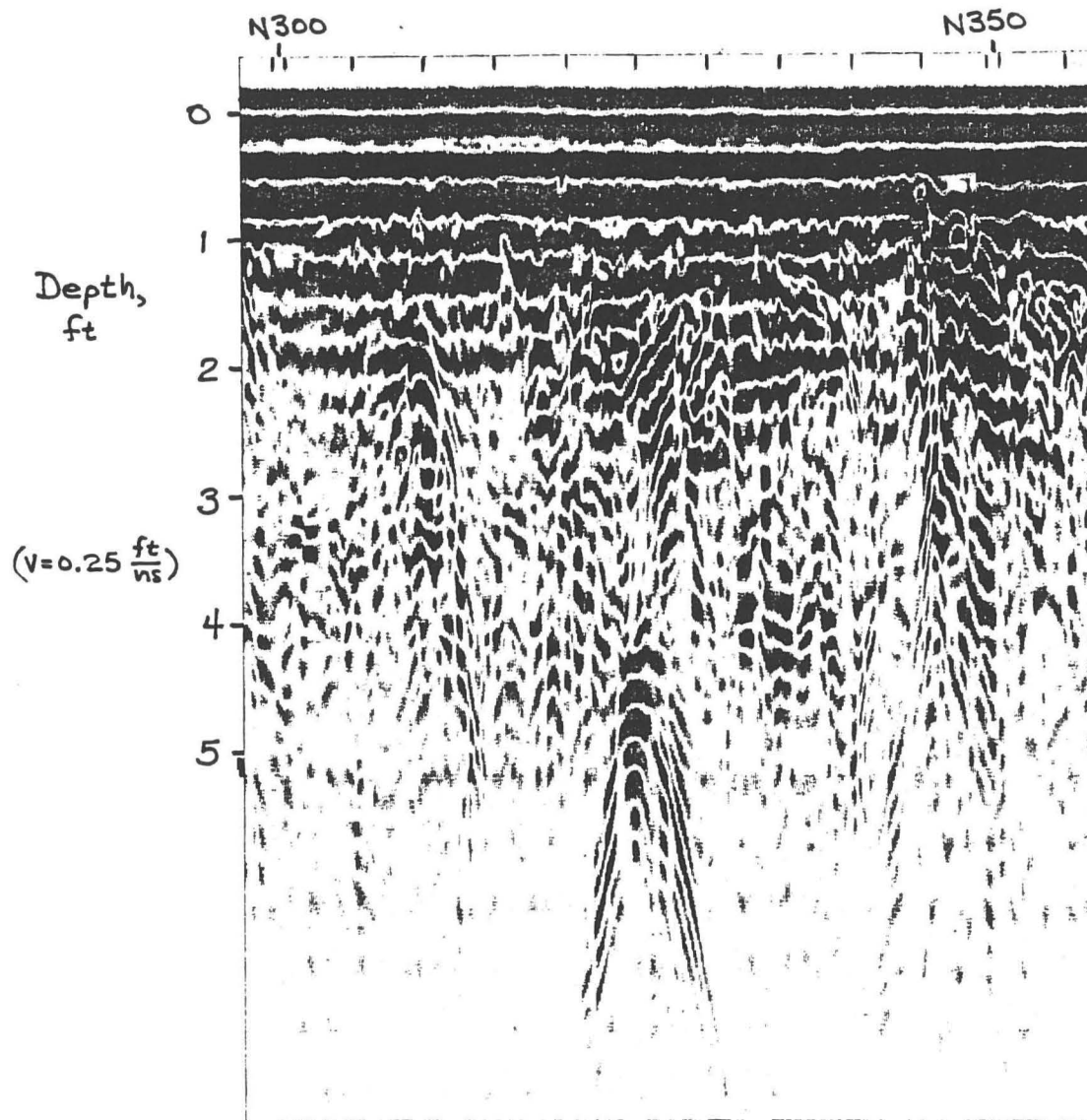


Figure 28

FIGURE B-28

Salem, south of Narbonne House
line E40
markers at 5 ft intervals
model 3102 (315 MHz) antenna
Survey 9 Apr 90



object at depth of 4.7 ft
causes very strong echo

Figure 29

FIGURE B-29

Salem, south of Narbonne House
line E10
markers at 5ft intervals
model 3102 (315 MHz) antenna
survey 9 Apr 90

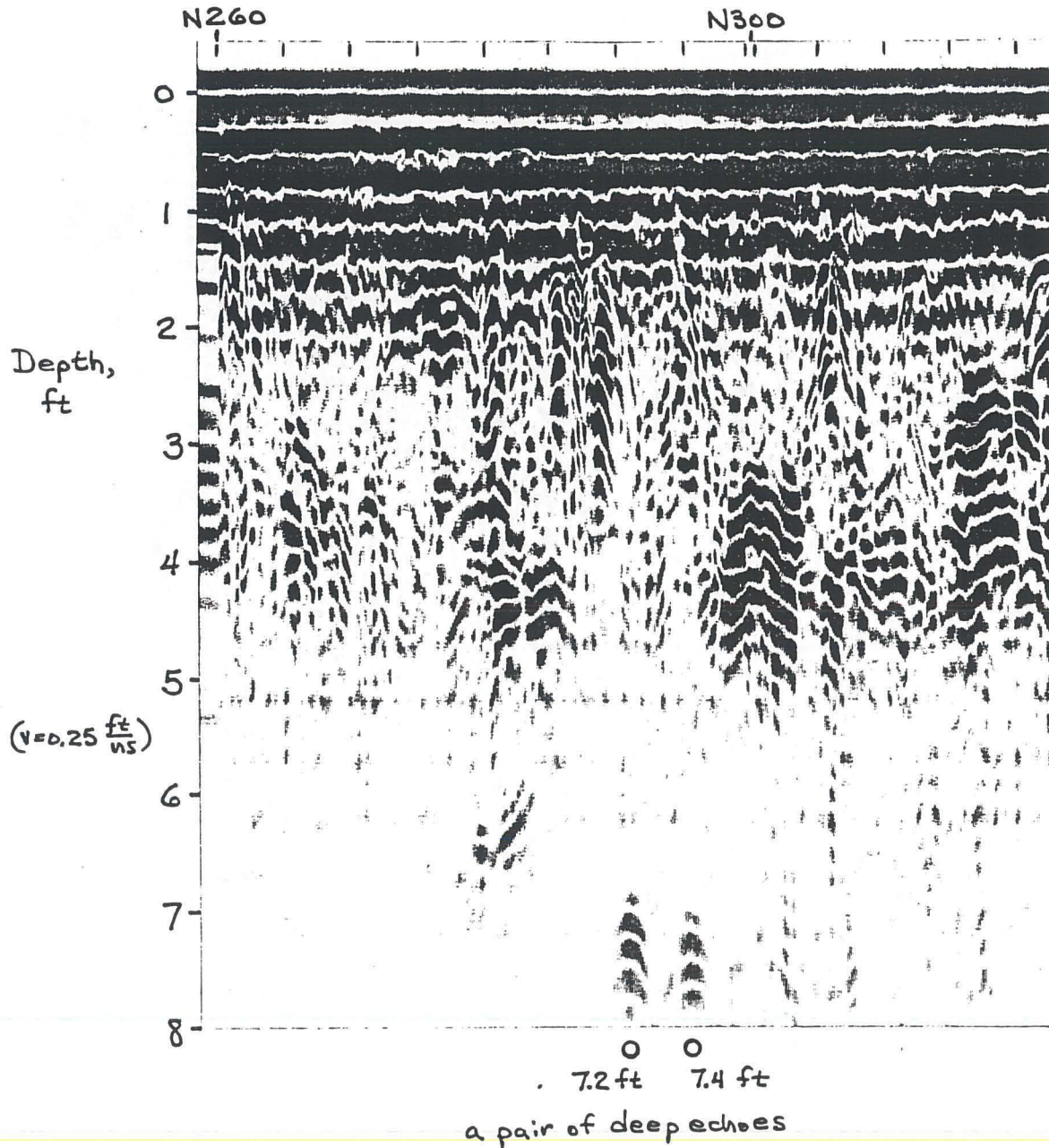


Figure 30

FIGURE B-30

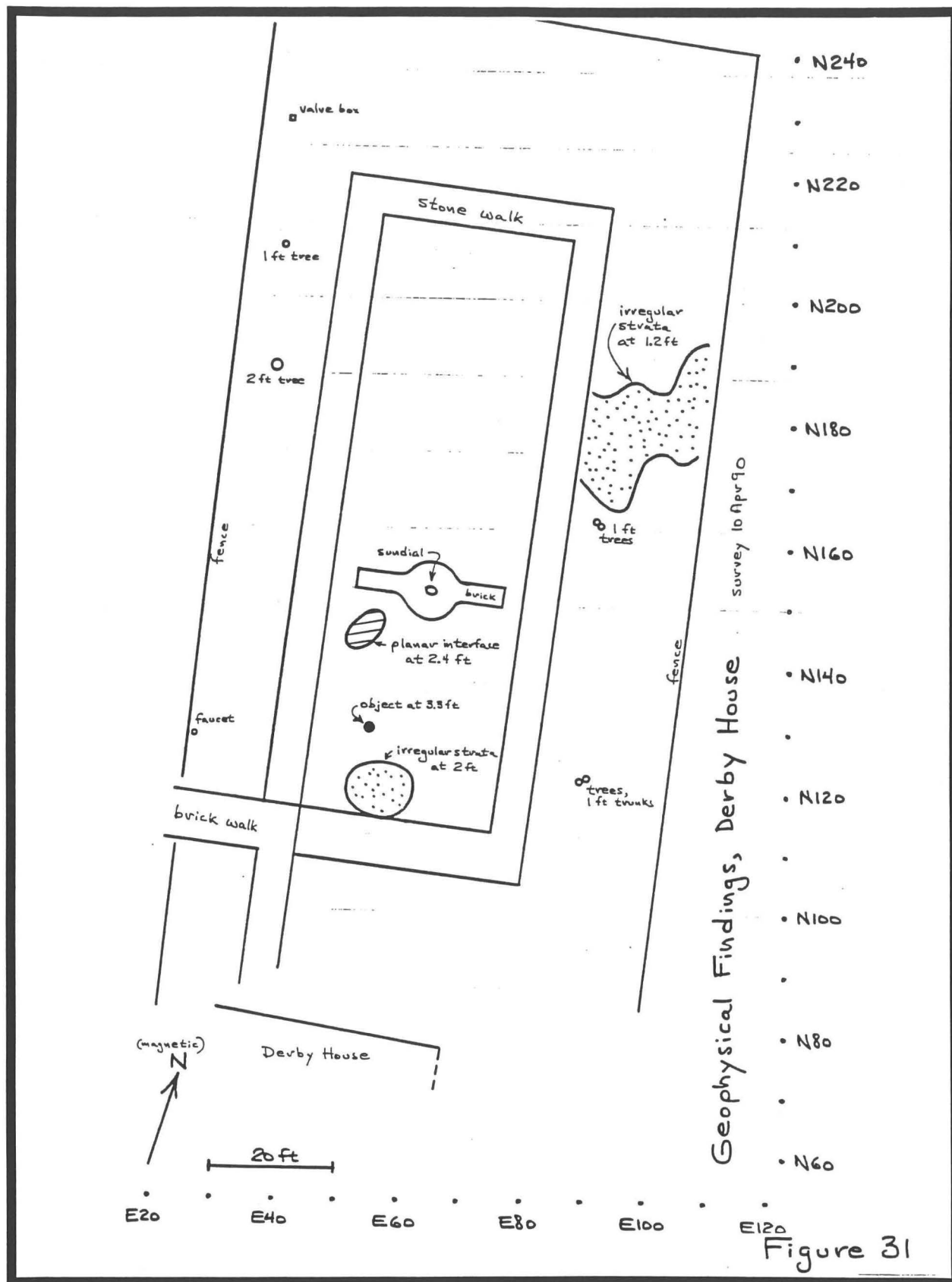
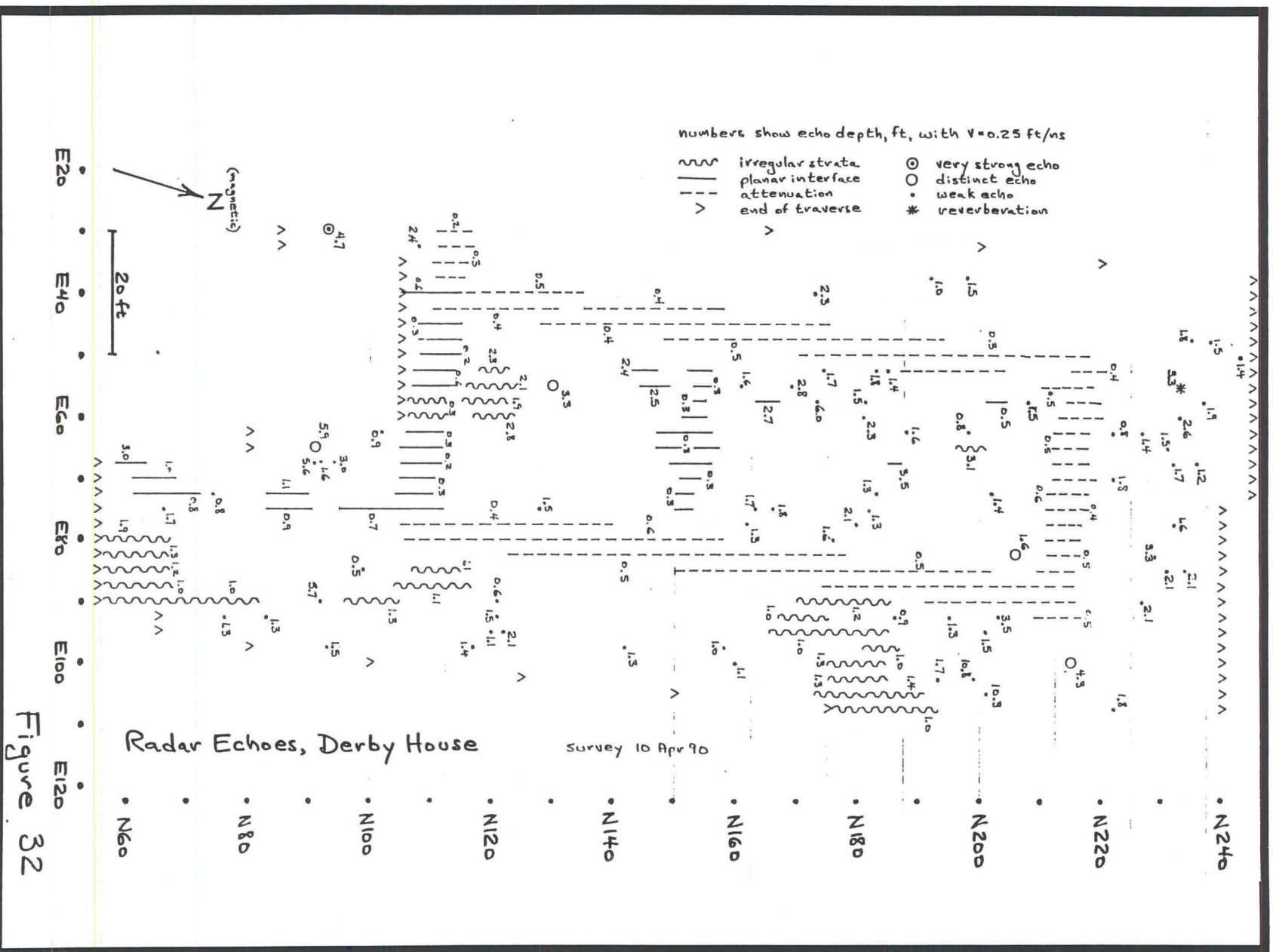
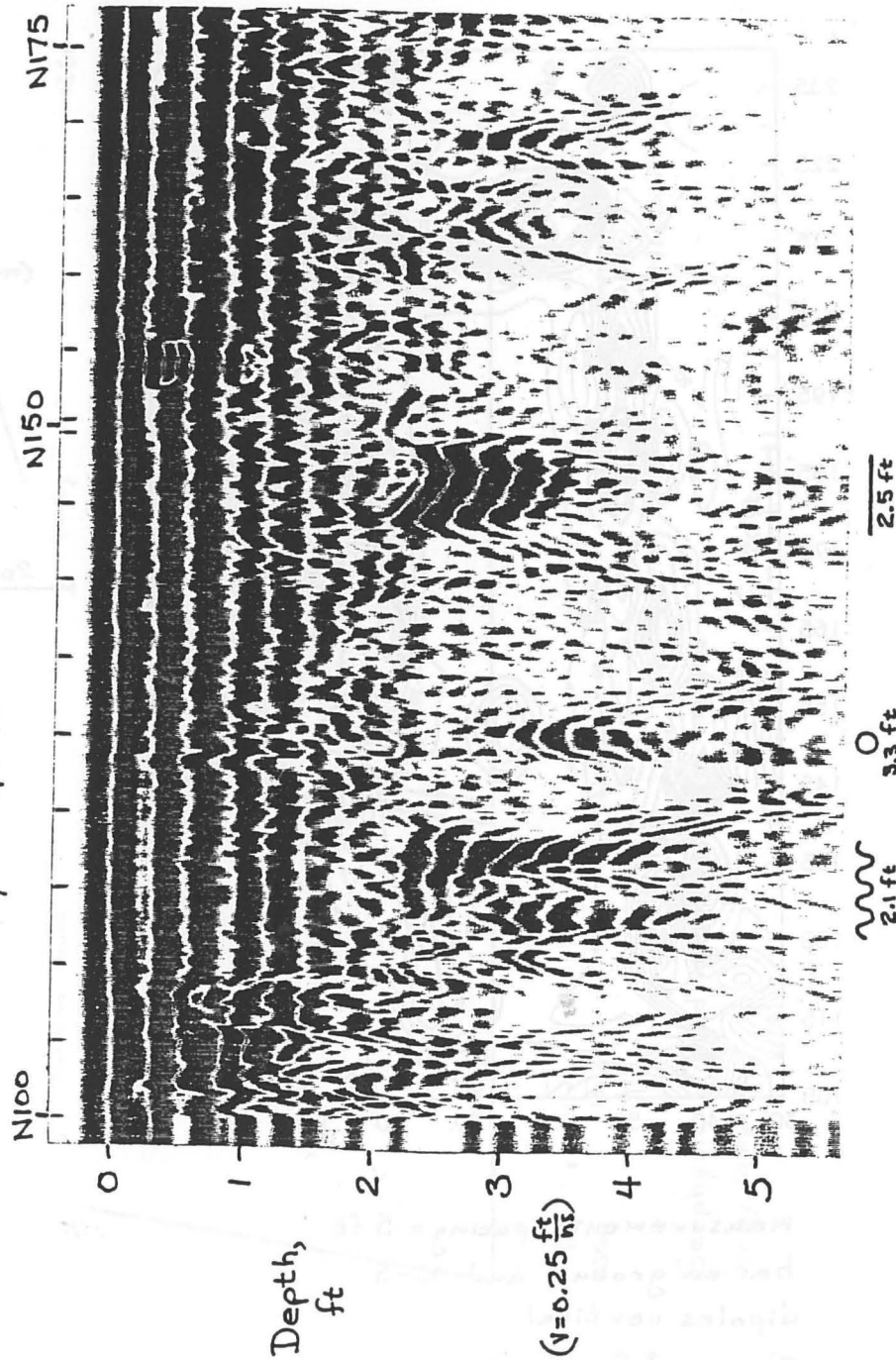


FIGURE B-31



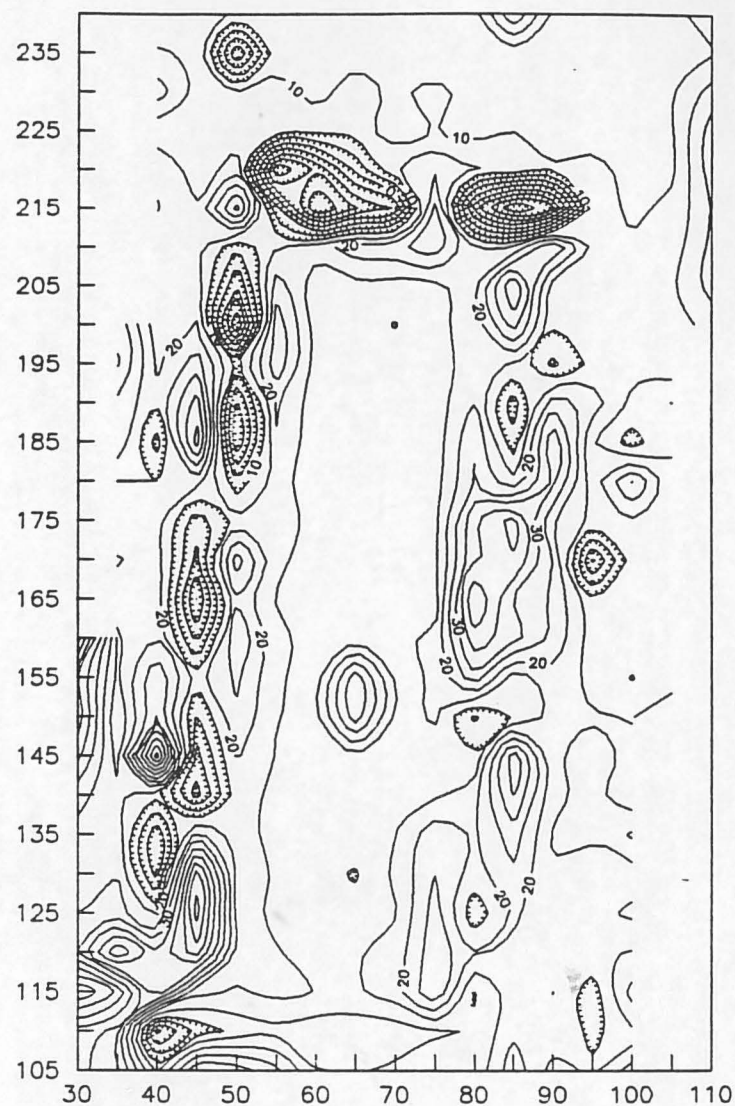
Salem, north of Derby House, line E55
 markers at 5 ft intervals, model 3102 (315 MHz) antenna
 survey 10 Apr 90



Several features are detected

Figure 33

EM38 conductivity, Derby House, 5 mS/m contours

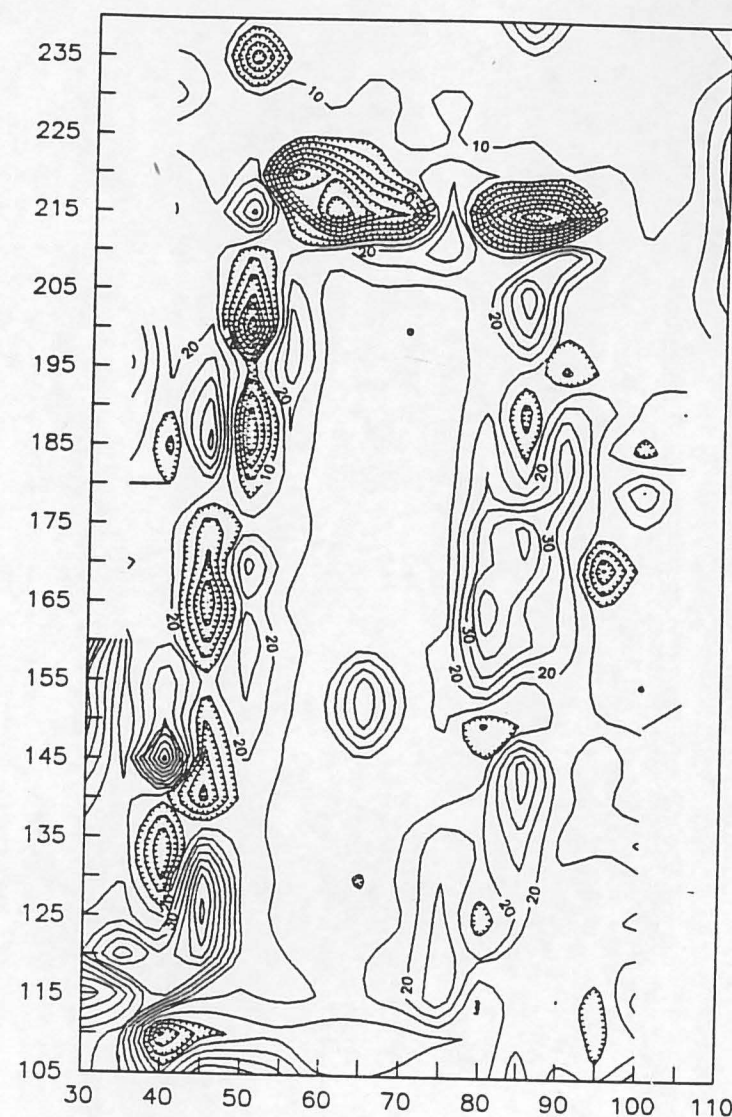


measurement spacing = 5 ft
bar on ground and N-S
dipoles vertical
Survey 8 Apr 90, 1:48-2:32 pm

Figure 34

FIGURE B-34

EM38 conductivity, Derby House, 5 mS/m contours



measurement spacing = 5 ft
bar on ground and N-S
dipoles vertical
Survey 8 Apr 90, 1:48-2:32 pm

Figure 34

FIGURE B-34

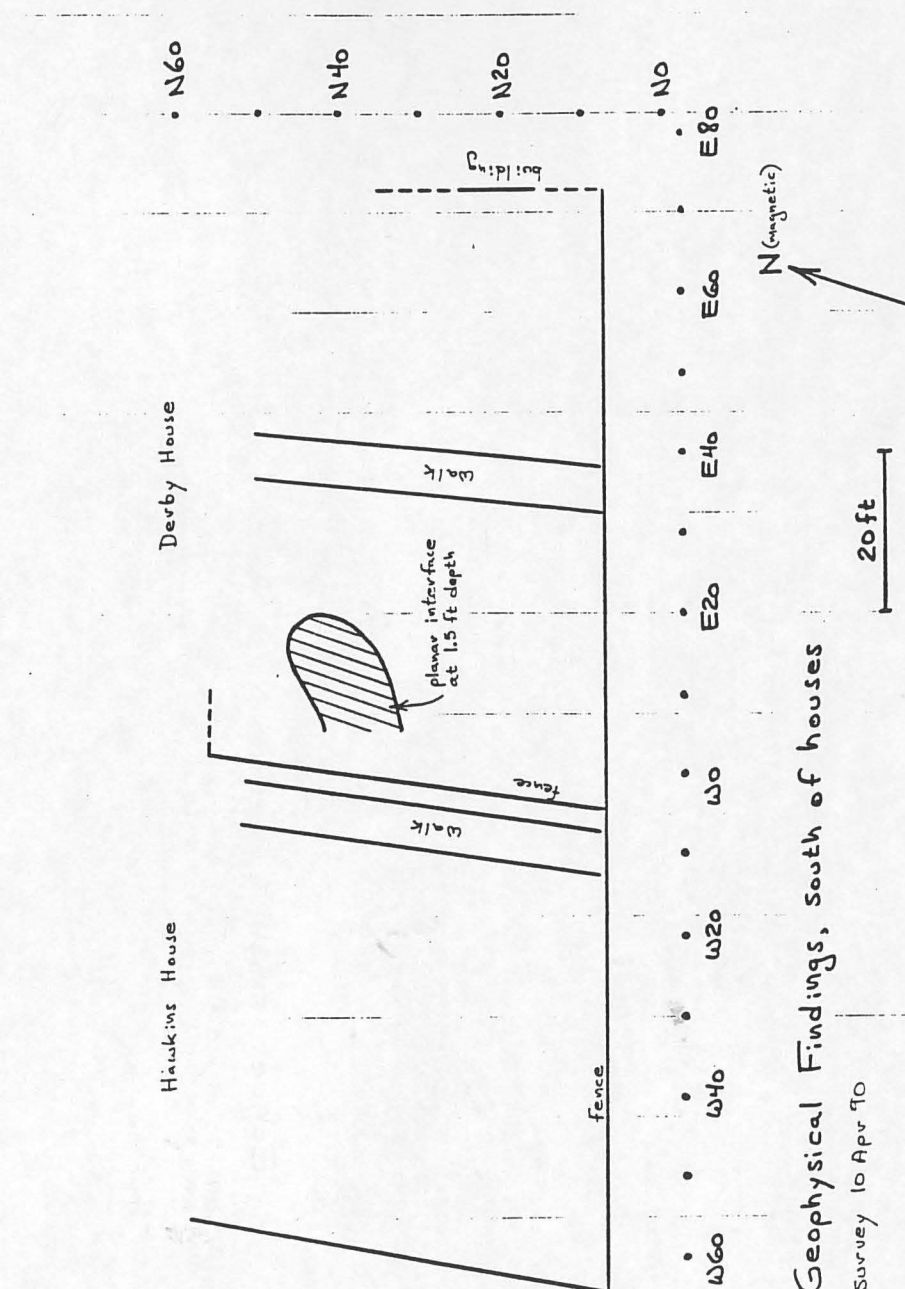


Figure 35

FIGURE B-35

Figure 36

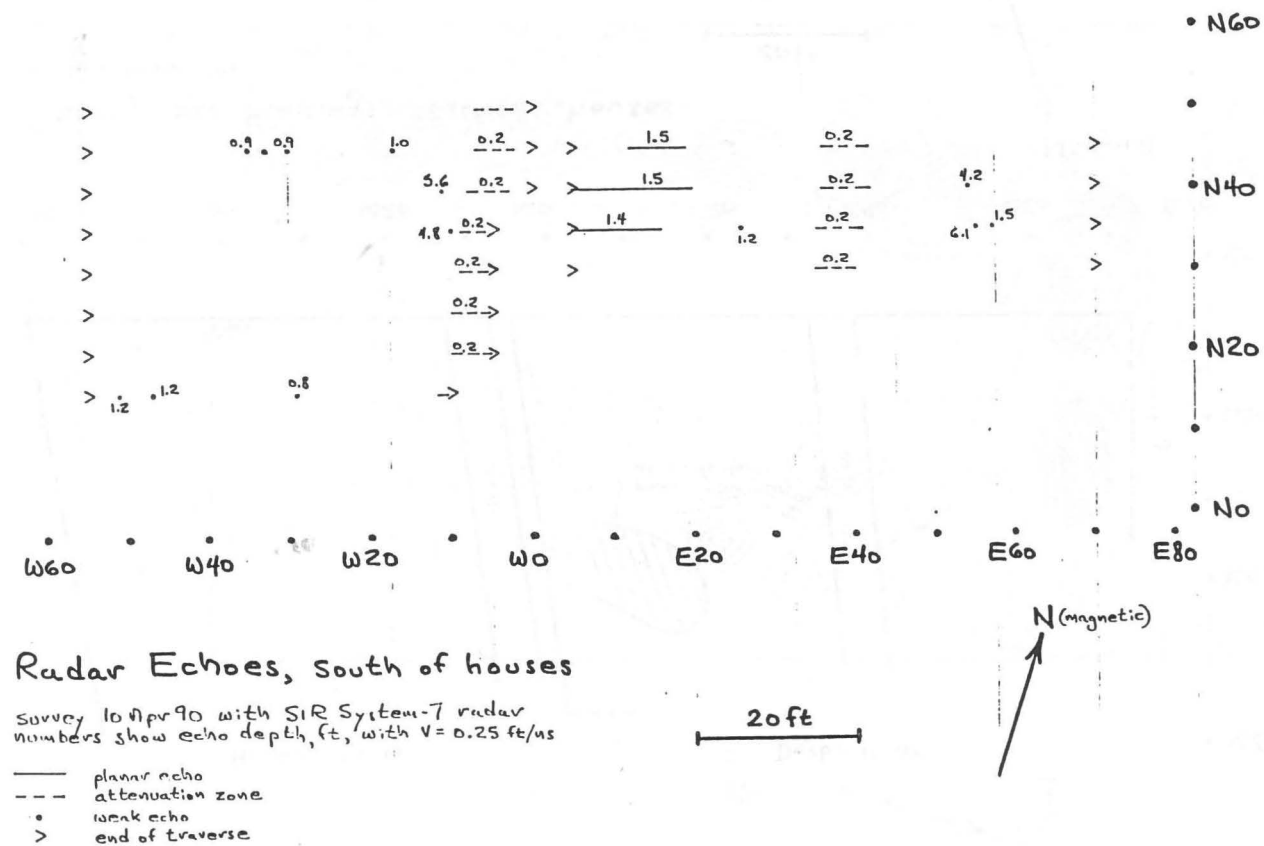
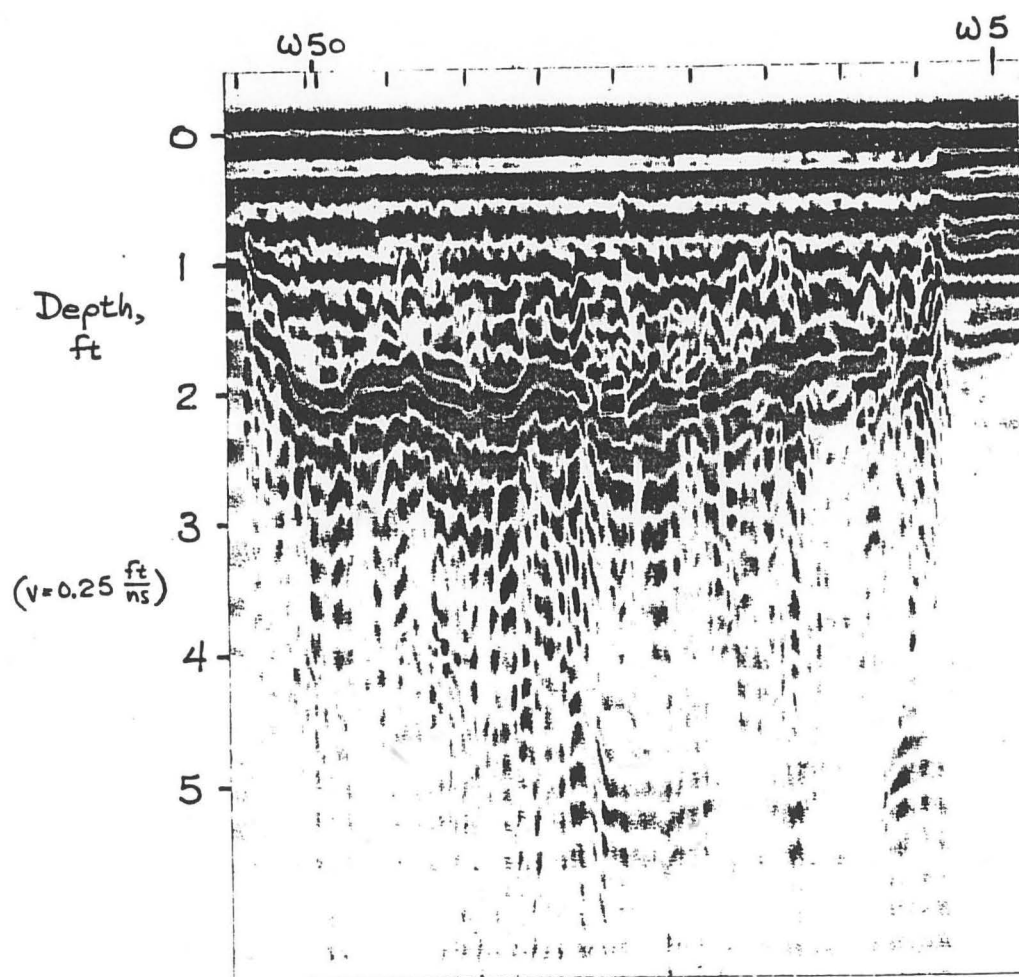


FIGURE B-36

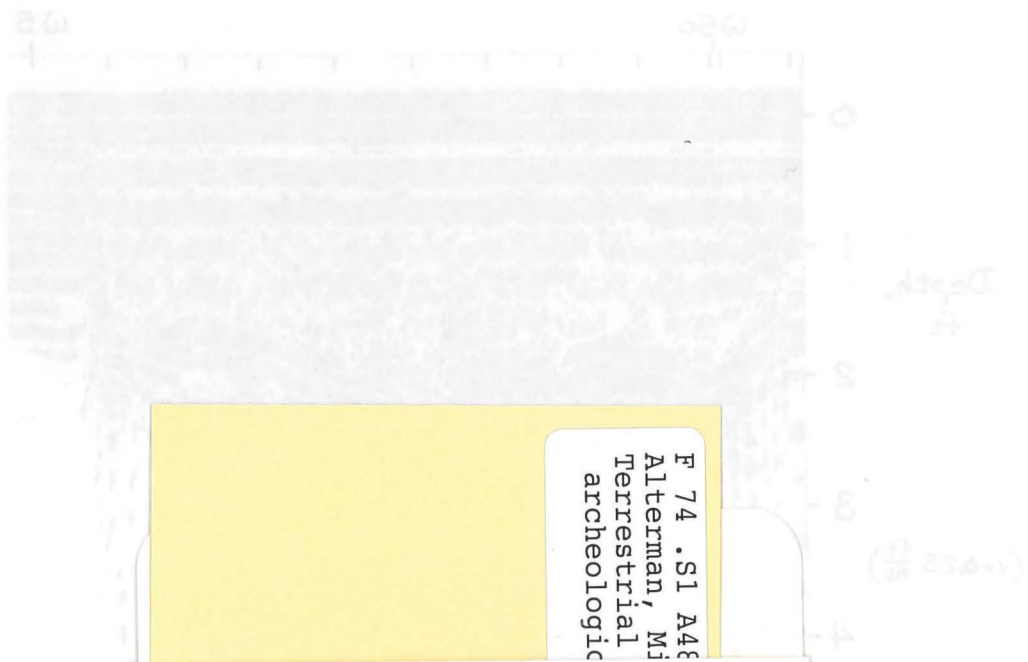
Salem, south of Hawkes House
line N35
markers at 5 ft intervals
model 3102 (315 MHz) antenna
survey 10 Apr 90



planar interface at 2 ft depth

Figure 37

Survey to 10 ft for
Model 3102 (312 MHz) antenna
Markers at 2 ft intervals
line N22
2 miles South of Hawks House



F 74 .S1 A48 1995
Alterman, Michael L.
Terrestrial and marine
archeological remote



U.S. Department of the Interior Mission Statement

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally-owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.



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D-70 / May 1995

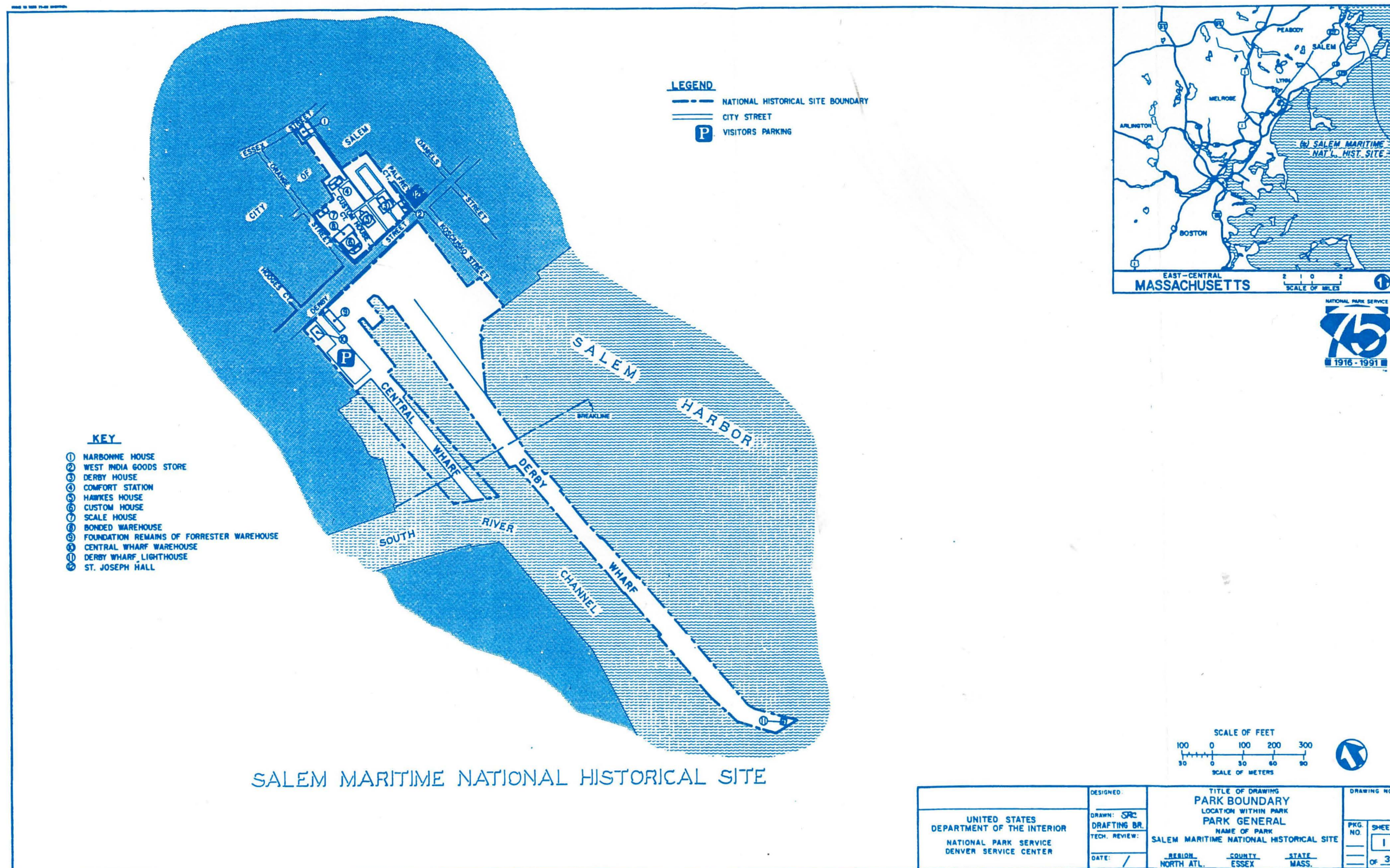
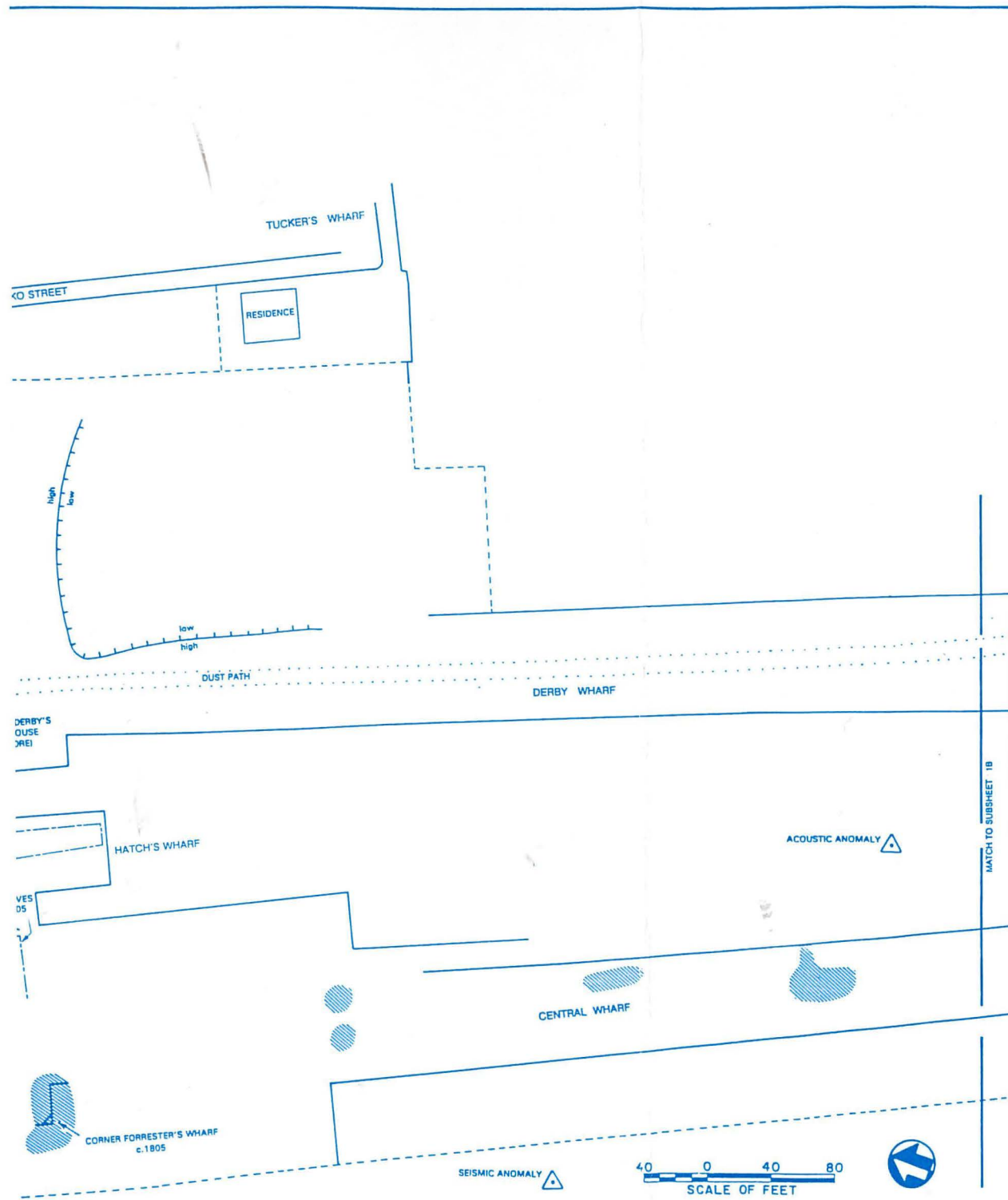
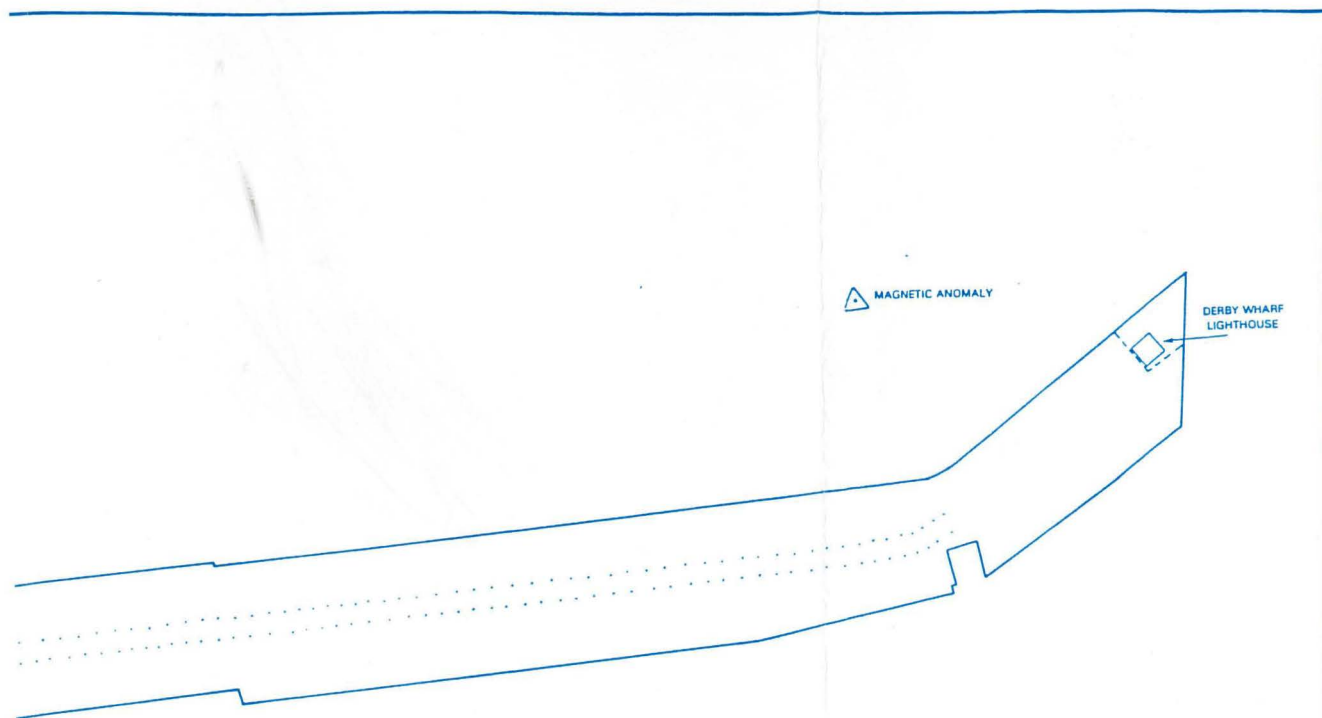


FIGURE 2: Study Area











DESIGNED: M. Alterman DRAWN: A. Helms TECH. REVIEW: M. Alterman DATE:	SUB SHEET NO. <div style="font-size: 2em; font-weight: bold; text-align: center;">IA</div>	TITLE OF SHEET ARCHEOLOGICAL BASE MAP SALEM MARITIME NATIONAL HISTORIC SITE	DRAWING NO. PKG. NO. _____ SHEET <div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> OF <div style="border: 1px solid black; padding: 2px; display: inline-block;">3</div>

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LEGEND

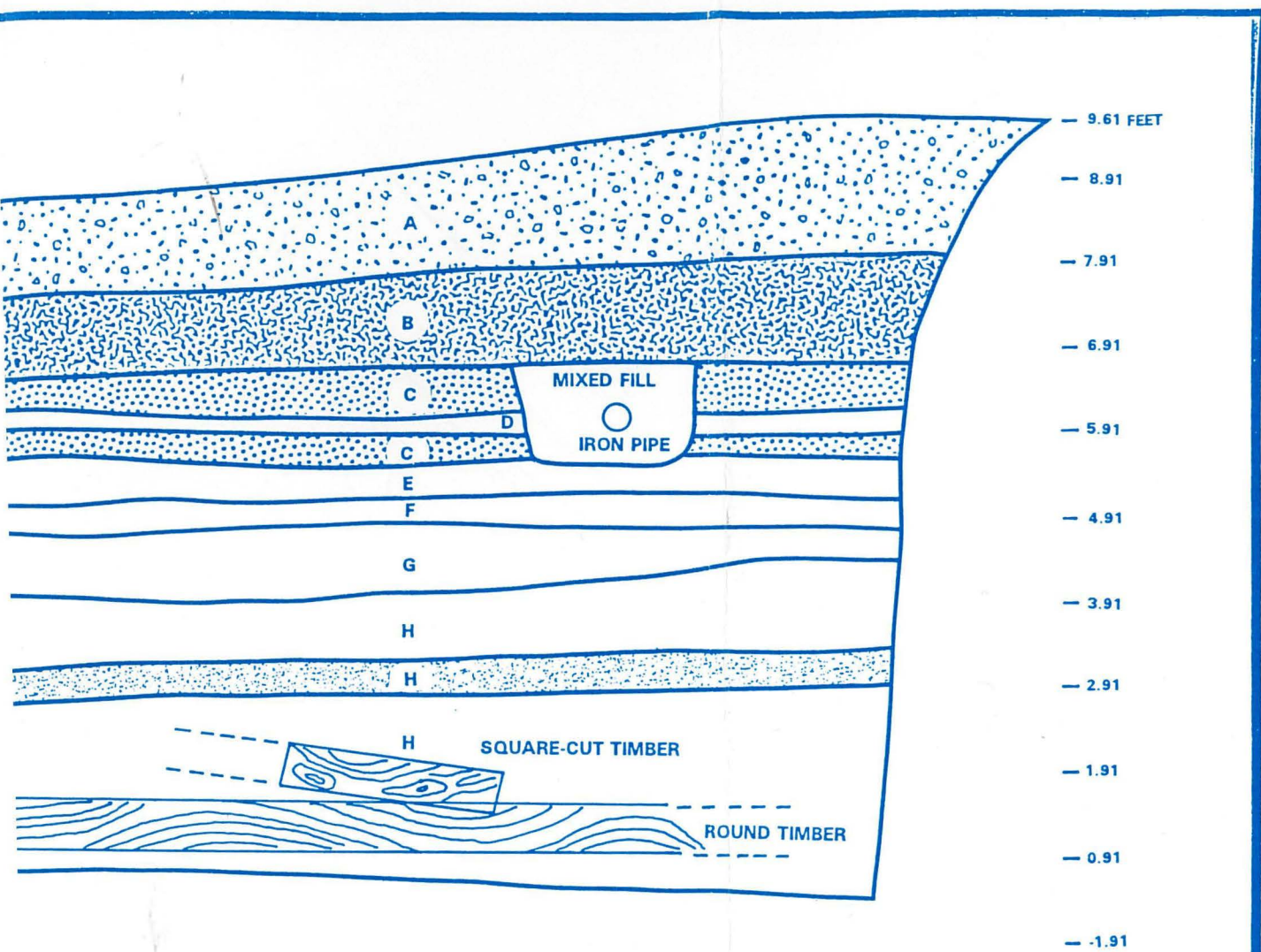
-  STANDING STRUCTURES AND ARCHEOLOGICAL FEATURES
-  LOT LINES
-  STREETS AND WHARVES
-  DOCUMENTED HISTORIC STRUCTURES AND FEATURES WITH HIGH ARCHEOLOGICAL POTENTIAL
-  PREVIOUS ARCHEOLOGICAL EXCAVATIONS
(additional information on Harbortown House in Moran, Zimmer, and Yensich 1982; additional information on Central Wharf in Wilson and Moran 1980)
-  RESISTIVITY BOUNDARY
-  UNDERWATER REMOTE SENSING ANOMALIES
-  RADAR SURVEY ANOMALIES

40 0 40 80
SCALE OF FEET



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AGMENTS, AND



